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EL TORO WATER DISTRICT

A District of Distinction

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WATER BUDGET TIERED RATE STUDY REPORT

April 2016

Prepared By

RFC

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April 16, 2010

Mr. Mike Grandy, CFO
Assistant General Manager / CFO
El Toro Water District
24251 Los Alisos Blvd.
Lake Forest, CA 92630

Dear Mr. Grandy,

Raftelis Financial Consultants ("RFC"), Inc. is pleased to provide this Water Budget Tiered Rate Study Report ("Report") summarizing our analysis to design the water budget allocations for residential and irrigation customers and to determine tiered water rates designed to recover the cost of providing water services to customers in the El Toro Water District ("District"). RFC reviewed the current water rate structure, conducted a cost of service analysis, and developed a water rate structure and rates that address the water resource management issues that the District is facing.

This Report summarizes the key findings and recommendations related to the water budget allocation and tiered water rates for residential and irrigation customers.

It has been a pleasure working with you and we thank you and the District staff for the support provided during the course of this study.

Sincerely,

Raftelis Financial Consultants, Inc.

Sanjay Gaur
Manager

Khanh Phan
Senior Consultant

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1 Executive Summary

1.1 Introduction

Southern California water agencies are facing water resource challenges including statewide drought, the Delta regulatory restriction and the uncertainty associated with the future water supply from the Delta. The ongoing water supply constraints have driven up the costs of Metropolitan Water District of Southern California ("MWD") water significantly and have caused MWD to implement a drought allocation plan, where penalty rates are accessed for usage above a member agency's allocation. The critical water supply situation also triggered the State Legislature to issue the 2009 Water Conservation Act (Senate Bill 7 or SB-7), which calls for a 20 percent per capita reduction in water usage by 2020. As a result, water agencies are being forced to take more proactive steps to promote conservation and increase water rates at the same time. Thus, to deal with these challenges, the El Toro Water District ("District") is committed to implement the water budget tiered rate structure by July 1st, 2010 to promote water efficiency and ultimately achieve the conservation goals set by SB-7.

The District engaged Raftelis Financial Consultants, Inc ("RFC") to conduct the water budget tiered rate study ("Study") to appropriately design equitable water budget allocations for residential and irrigation customers and calculate the corresponding water budget tiered rates in compliance with Proposition 218. The water budget tiered rate structure is designed to promote efficient water use and to assure financial sufficiency for the District's daily operations as well as fund capital improvements. This study includes:

- Development of a financial plan for fiscal year ("FY") 2010-11;
- Development of water budget allocations for residential and irrigation customers;
- Design of water budget tiered rates for FY 2010-11;
- Analysis and determination of R&R Capital Charge for water and sewer;
- Customer impact assessments; and
- Development of an implementation strategy for the proposed water budget tiered rate structure.

The objectives of the water budget tiered rate structure design and study are to:

- Design fair and equitable individualized water budget allocations;
- Promote efficient water use and ultimately achieve conservation; and
- Enhance revenue stability and financial sufficiency for the District operations.

1.2 Study Findings and Recommendations

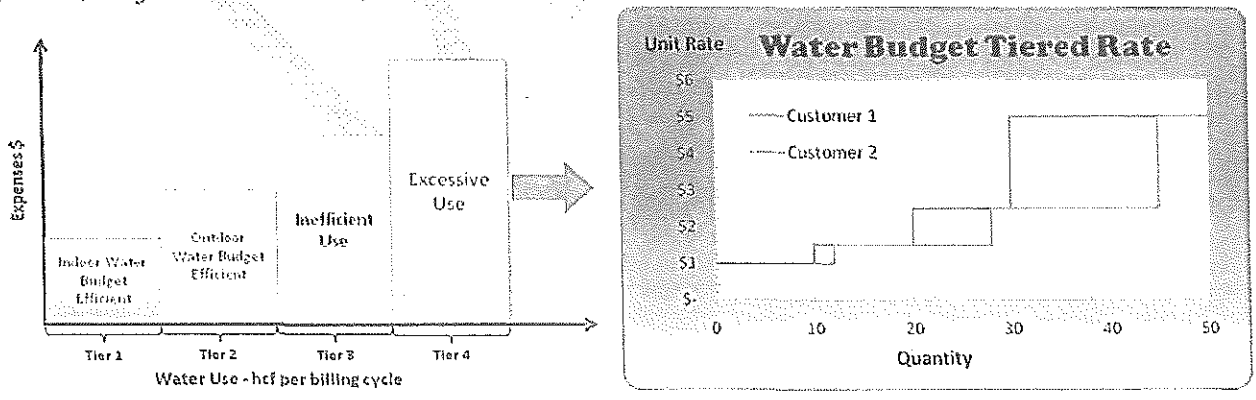
1.2.1 Financial Plan and Revenue Adjustments

The principal findings and recommendations of the financial plan of the water rate study are as follows:

- The MWD is anticipated to increase its water rates by 7.5 percent effective January 1, 2011. The increase in MWD and Municipal Water District of Orange County ("MWDOC") rates will be passed on to customers, increasing the expected water supply rate from $1.72 to $1.86 per hundred cubic feet ("ccf") in FY 2011.
- To responsibly preserve its water and sewer infrastructure investment, meet regulatory requirements and ensure a continuous high level of service to customers, the District maintains a significant Capital Replacement and Refurbishment ("R&R") Program. To minimize financial impacts to customers, the collection of capital facility costs has been phased over time in conjunction with prudent use of reserves to balance capital facility revenues and expenses. Effective July 1, 2010, the District proposes to equitably adjust the Capital R&R Charge for Water and Sewer to generate an additional $500,000. This increase coupled with the current Capital R&R Charge revenue will be combined with the use of reserves to fund the 2010/11 Water and Sewer Capital R&R Programs and pay for debt service of the State Revolving Fund ("SRF") loan in FY 2011 to finance the construction of the Baker Water Treatment Plant.
- FY 2011, the District will mitigate the shortfall of the remaining operations expenses using the water reserves to minimize customer impacts. As a result, there is no revenue adjustment required for the District revenues in FY 2011, collected from monthly water/sewer service charges and water delivery rates.

1.2.2 Water Budget Allocations

The American Water Works Association Journal defines water budget as "the quantity of water required for an efficient level of water use by that customer." *(Source: American Water Works Association Journal, May 2008, Volume 100, Number 5)*



Water budget allocations are usually broken into two components: indoor water budget and outdoor water budget. In this Study, the water budget allocations and tiered rate structure are designed for residential and irrigation accounts only; all other customer classes will retain the current uniform rate structure.

1.2.2.1 Indoor Water Budget

The indoor water budget ("IWB") is determined by a customer's household size and a standard consumption per person. The proposed IWB formula is as follows:

$$IWB = \frac{GPCD * Household\ Size * Days\ of\ Service * DF_{indoor}}{748} + V_{indoor}$$

where

- GPCD – Gallons per capita per day. The standard consumption per person per day is set at 60 gallons based on the *AWWARF Residential End Uses of Water Study*, which stated that the mean daily water use per capita is 59.8 gallons.
- Household Size – Number of residents. The default values for household size are set based on customer class
  - Single Family: Household Size = 4 persons[1]
  - Multi Family:
    - Restricted: Household Size = 2 persons [2]
    - Unrestricted: Household Size = 3 persons
- Days of Service. The number of days of service varies with each billing cycle for each customer. The actual number of days of service will be applied to calculate the indoor water budget for each billing cycle.
- DF_{indoor} – Indoor drought factor. The percentage of indoor water budget allotted during drought conditions. The drought factor is subject to the approval of the District's Board of Directors at different drought stages. The indoor drought factor is currently set at 100%.
- V_{indoor} – Indoor variance. The additional water allotment to be granted for extenuating circumstances is subject to District's approval or verification as outlined in the variance program (see Section 8 – Implementation Strategy below).
- 748 is the conversion unit from gallons to billing unit of hundred cubic feet ("ccf")

[1] Based on the CA Population as of 1/1/2009, the average household size for Lake Forest and Mission Viejo is 3.014 persons and 2.941 persons, respectively. To balance the administrative costs associated with variance program and the accuracy of the indoor water budget, single family's water allotment is based on 4 persons per household.

[2] Based on the District's current policy for aged restricted Multi Family customer to qualify for lower sewer rates

1.2.2.2 Outdoor Water Budget

The outdoor water budget ("OWB") is determined based on three main variables: irrigable landscape area, weather data and ET Adjustment Factor. The irrigable landscape area, measured as square footage of landscape surface on a customer's property, is estimated using the Orange County Assessors' parcel data - lot size, building size and number of floors - where the actual irrigable landscape area data is not available. The weather data is based on the reference EvapoTranspiration ("ET_0"), which is the amount of water loss to the atmosphere over a given time period at given specific atmospheric conditions. ET_0 is the amount of water (in inches of water) needed for a hypothetical reference crop to maintain its health and appearance. The ET Adjustment Factor ("ETAF") is a coefficient that adjusts ET_0 values based on a plant factor ("PF") and irrigation efficiency ("IE"). The updated California Department of Water Resources' ("DWR") Model Water Efficient Landscape Ordinance ("Landscape Ordinance") provides the following ETAF for different landscapes:

- Existing landscape (Functional[3]): $ETAF_{Existing} = 80\%$
- New development / redevelopment landscape (Functional): $ETAF_{New} = 70\%$
- Special landscape (Recreational[4]): $ETAF_{Recreational} = 100\%$

The formula to calculate outdoor water budget is as follows:

$$OWB = \left(\frac{\text{Landscape Area} * ET_0 * \text{ETAF}}{1200} + V_{outdoor} \right) * DF_{outdoor}$$

where

- ET_0 is measured in inches of water during the billing period based on daily data acquired from the California Irrigation Management Information System ("CIMIS") Station 75, which is the closest station to the District's service area.
- ETAF (% of ET_0) is defined using the updated Landscape Ordinance as shown above.
- Landscape Area (or Irrigable Landscape Area) (in square feet) is the measured irrigable landscape area served by customer's meter.
    - Where the measured irrigable landscape area is not available, the landscape area will be estimated by the following formula using the Orange County Assessors' parcel data.
        - $\text{Landscape Area (sq ft)} = 70\% * \left(\text{Lot Size} - \frac{\text{Building Size}}{\text{Number of Floors}} \right)$

[3] Functional for landscape which is used for ornamental and decorative purposes, whereas, Recreational for landscape which is used mostly for recreational purposes such as school, park, golf courses

[4] Based on CA Code of Regulation, Title 23, Chapter 2.7, Section 491, Special Landscape Area is defined as an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

- For accounts dedicated for domestic use only, such as multi-family units, 25 square feet of irrigable landscape is provided for each dwelling unit for patio plants.

- $DF_{outdoor}$ – Outdoor drought factor. The percentage of outdoor water budget allotted during drought conditions. The drought factor is subject to the approval of the District's Board of Directors at different drought stages. The outdoor drought factor is currently set at 100%.
- $V_{outdoor}$ – Outdoor variance. The additional water allotment to be granted for extenuating circumstances is subject to District's approval or verification as outlined in the variance program (see Section 8 – Implementation Strategy). Outdoor variance is subject to outdoor drought factor.
- 1200 is the conversion unit from inch*ft² to billing unit of hundred cubic feet ("ccf")

1.2.2.3 Water Budget Allocations by Customer Classes

The table below summarizes the water budget allocation by customer class. Both Single Family and Multi Family (restricted and unrestricted) customers will receive an indoor and outdoor water budget. Irrigation accounts will only receive an outdoor budget. Commercial and Public Authority ("CII"[5]) customers will continue with the current uniform water rate structure.

Table 1-1: Water Budget Allocations by Customer Classes

Customer Class	Water Budget Allocations	Default Values
Single Family	IWB + OWB	Household Size = 4 persons $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Multi Family – Restricted	IWB + OWB	Household Size = 2 persons $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Multi Family – Unrestricted	IWB + OWB	Household Size = 3 persons $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Irrigation – Functional*	OWB	$ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Irrigation – Recreational**	OWB	$ETAF_{Recreational}$ = 100%

Irrigation – Functional: whose landscape is ornamental in nature
Irrigation – Recreational: whose landscape is used mostly for recreational purposes (school, parks, golf etc…)

1.2.3 Tier Definitions

Based on the information in Table 1-1, the tier definitions are developed as shown in Table 1-2 below. The main difference between Single Family / Multi Family and Irrigation accounts is that Irrigation accounts do not have a Tier 1 allotment which is reserved for indoor use. All three customer classes have their Tier 3 allotment defined as 30% of their respective total water budget.

[5] CII = Commercial / Industrial / Institutions

Table 1-2: Tier Definitions by Customer Classes

Tiers	Single Family	Multi Family	Irrigation
Tier 1 Efficient Indoor Use	100% IWB	100% IWB	0% OWB
Tier 2 Efficient Outdoor Use	100% OWB	100% OWB	100% OWB
Tier 3 Inefficient Use	100% to 130% TWB	100% to 130% TWB	100% to 130% OWB
Tier 4 Unsustainable Use	Above Tier 3	Above Tier 3	Above Tier 3

TWB = Total Water Budget = IWB + OWB

The tier definitions are tailored to the unique consumption patterns of the District's customers and subject to the District's policy decisions. The proposed tier definitions are based on RFC's usage and impact analysis and numerous policy discussions with the Board. The first priority for water use is essential indoor water use for health, safety and sanitary purposes. Based on the Board direction, indoor water use is eligible for revenue offsets from site leases. Maintaining healthy landscape at efficient water use is non-essential, yet important, thus efficient outdoor water use is required to pay the Tier 2 rate. Any usage above an efficient level is subject to higher charges to fund conservation programs and any other supplemental water supply program. The current water supply is reserved for efficient water use within the District for indoor, outdoor and commercial use. The higher Tier 3 rate serves as warning for inefficient use before incurring heavy penalty for excessive use in Tier 4.

Based on 4-year historical consumption data, Figure 1-1 shows that 45 percent of the usage falls within Tier 1 for indoor use, 32 percent falls within Tier 2 for outdoor use, and about 23 percent within Tiers 3 and 4. Approximately 27 percent of the bills will be charged at the Tier 1 rate because their consumption is projected to be within their indoor allotment. Approximately 66 percent of the bills fall within their allotted indoor and outdoor water budget, thus only paying Tier 1 and Tier 2 rates. Approximately 34 percent of the bills will exceed the total water budgets. In order to achieve the conservation goal of 20 percent reduction by 2020 set by the 2009 Water Conservation Act (SB-7), the District will need to focus on Tier 4 and Tier 3 customers to help them achieve efficient water use. Potentially, some of these customers may apply for variances to update their actual household size and/or landscape area inputs.

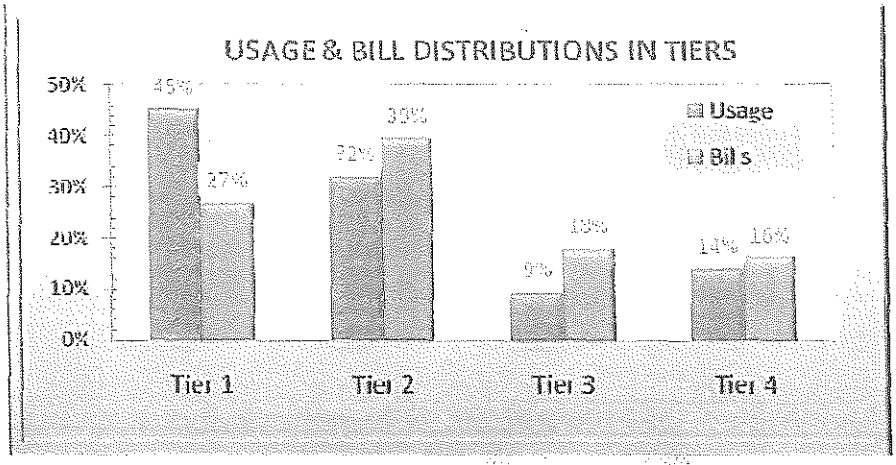


Figure 1-1: Usage and Bill Distributions for SFR + MFR + IRR Customers

1.2.4 Proposed Water Budget Tiered Rates

1.2.4.1 Commodity Rates

Proposition 218 requires a nexus between the rate and costs of providing service. To meet this requirement, RFC has identified four different rate components of the commodity rate, including Water Supply, Delivery, Conservation and Revenue Offset, as shown in Table 1-3. The Water Supply component will recover the cost associated with purchasing imported water or developing alternative supply sources. Based on the District's policy, MWDOC allocation of 9,400 acre feet ("AF") in FY 2011 is reserved for efficient water usage among Tiers 1, 2, and for CII usage. Using allocation factors described above, RFC has projected that usage in Tiers 1 and 2, plus CII estimated water sales is approximately 9,100 AF (net of loss water of 300 AF), which equals to the MWDOC allocation. Water consumption above this amount is procured from more expensive supplemental sources. In this Study, the Recycled Water Program is utilized as the reference for supplemental water supply costs. To ensure water is affordable for health, safety and sanitary purposes, the District decided to utilize 75 percent of the income from site lease to provide revenue offset against water supply cost for Tier 1 usage.

Delivery charge recovers the remaining operations and maintenance costs incurred by the District in delivering water from MWDOC to the customer site. Property tax is used to offset delivery revenue requirements for Tier 1 usage based on the District's policy of providing essential indoor water use for health, safety and sanitary purposes at an affordable rate. Since Tier 4 usage is projected to decline over time as the customers improve their water use efficiency, the delivery charge is applied against Tier 2 and Tier 3 usage. Conservation program costs are allocated to Tiers 3 and 4, so that customers that need conservation pay for this program. The District is expected to focus its conservation efforts on these customers.

The tiered commodity rates are summarized below for SFR, MFR and IRR customers. The tiered rate will send out a strong conservation signal to inefficient customers and meet the legal requirements of Proposition 218. CII rates will increase to $2.03 per ccf to reflect the higher water supply cost while retaining the current delivery charges.

Table 1-3: Commodity Rates ($/ccf)

Tiers	Current Rates	Proposed Rates: Water Supply	Delivery	Conservation	Offset *	Total
Tier 1	$1.89	$1.86			($0.06)	$1.80
Tier 2	$1.89	$1.86	$0.34			$2.20
Tier 3	$1.89	$3.80	$0.34	$0.24		$4.38
Tier 4	$1.89	$5.70		$0.24		$5.94
Uniform Rate	$1.89	$1.86	$0.17			$2.03

** Offset using Income from Site Lease based on District's policy*

1.2.4.2 Monthly Service Charges

The District's financial plan indicates that in FY 2011, there is no overall revenue adjustment for the District's operations. As a result, the monthly service charge remains unchanged.

1.2.4.3 Capital R&R Charges

The Water Capital R&R Charge is a flat charge based on meter size as shown in the table below. The flat charges for each meter size are calculated based on an analysis of actual consumption for each meter size. The residential sewer Capital R&R Charge is based on dwelling units in a manner similar to the current assessment of the Sewer O&M Charge. Non-residential classes including the Commercial and Public Authority classes are billed monthly for the Sewer O&M Charge based on wastewater flow. Refer to the *"FY 2010/11 Budget Capital R&R Charge Engineering Report"* prepared by the Engineering Department of the District in Appendix III for rate setting methodology for both water and sewer Capital R&R Charges.

Table 1-4: Monthly Water Capital R&R Charges

Meter Size	Capital R&R Charges	
	Current	Proposed
5/8-inch	$2.21	$3.31
3/4-inch	$2.21	$3.31
1-inch	$3.70	$5.54
1 1/2-inch	$8.99	$13.46
2-inch	$22.56	$33.70

Table 1-5: Monthly Sewer Capital R&R Charges

Residential Class	Monthly Sewer Capital Replacement & Refurbishment Charge ($/EDU)
Single Family Residential	
Condominiums	$4.55
Trailer Park Unrestricted	
Laguna Woods Village	
Trailer Park Restricted	$3.61
Multi-Family Restricted	
Multi Family Unrestricted	$4.29

Meter Size	Commercial	Public Authority
5/8"	$6.42	-
3/4"	$7.34	-
1"	$12.38	$4.55
1 ½"	$25.60	$20.48
2"	$68.77	$35.20

1.2.5 Customer Impacts

Before implementing any rate structure recommendations, it is important to understand how the proposed rate structure would impact water customers. In the figures below, customer impacts are presented for each customer class, SFR, MFR and IRR. The customer impacts are driven by the three main changes:

- The change from the uniform rate to water budget tiered rate;
- The increase in water supply cost from MWDOC; and
- The increase in capital R&R.

Figure 1-2 below shows that the proposed rates will cause approximately 45 percent of all the customer bills to increase $2 or less and 19 percent of the bills to increase by $2 to $5. More than 70 percent of the bills will experience an increase of $10 or less in the monthly bills. Approximately 10 percent of all the water budget bills will have more than a $50 increase.

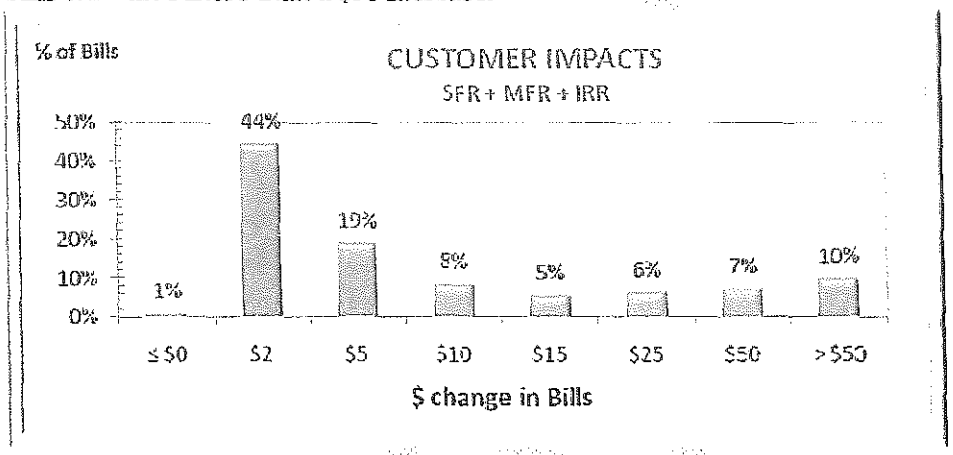


Figure 1-2: Rate Ramifications for All Water Budget Customers

1.2.6 Rate Survey

Comparing water rates with other neighboring communities can provide insights into a utility's water services pricing policies. However, care should be taken in drawing conclusions from such a comparison, as higher rates may not necessarily mean the utilities are operated and managed poorly. Many factors affect the level of costs and pricing structure employed to recover those costs. Some of the most prevalent factors include source of water supply, demand, age of system, level of grant funding, level of property tax revenue and rate setting methodology. Presented below is the residential water budget rate comparison of the District's proposed commodity rates with Irvine Ranch Water District for its Los Alisos service area and San Juan Capistrano Water District. For reference, Appendix I summarizes different water budget rate structures utilized by other agencies in Southern California.

Table 1-6: Residential Water Budget Rate Survey

Commodity Rates ($ / ccf)								
Tiers	EBMUD Residential		Irvine Ranch Water District Los Alisos Residential			San Juan Capistrano Residential < 7,000 sq ft lot		
	Proposed	7/1/2010	Effective	7/28/2009		Effective	2/1/2010	
Tier 1	Indoor WB	$ 1.80	0-40% WB	$	1.40	6 ccf	$	2.47
Tier 2	Outdoor WB	$ 2.20	41-100% WB	$	1.78	3 ccf + Outdoor	$	3.29
Tier 3	30%(IWB+OWB)	$ 4.38	101-150% WB	$	2.75	up to 200% WB	$	4.94
Tier 4	above Tier 3	$ 5.94	150-200% WB	$	4.65	over 200% WB	$	9.05
Tier 5			201% WB +	$	9.30	* Net irrigable Area = 3,636 sq ft		

1.2.7 Implementation Schedule

The new capital R&R charges and water budget tiered rate structure is scheduled to be implemented on July 1st, 2010. One of the District's pricing objectives is to minimize customer impacts. RFC proposes that the Tier 3 and Tier 4 rates are implemented in three phases, to smooth out the transition for customers from uniform rate to water budget tiered rates. Effective July 1st, 2010, Tier 3 and Tier 4 rates are set at Tier 2 rate at $2.20 per ccf. On November 1st, 2010, the Tier 3 will be increased to $3.31 per ccf and Tier 4 will be $4.09. Starting January 1st, 2011, the full rates for all tiers will be effective as shown in Table 1-7 below.

Table 1-7: Commodity Rates Implementation Schedule

Tiers	Phase-In Proposed Rates		
	Effective July 1st	Effective Nov 1st	Effective Jan 1st
Tier 1	$1.80	$1.80	$1.80
Tier 2	$2.20	$2.20	$2.20
Tier 3	$2.23	$3.31	$4.38
Tier 4	$2.23	$4.09	$5.94
Uniform Rate for CII	$2.06	$2.06	$2.06

CII: Commercial / Industrial / Institutional (Public Authority)

1.2.8 Variance Program

The variance program will allow customers to request changes to their water budget based on household size, landscape area, or other extenuating circumstances. This process will provide truly

individualized water budgets. The variance process (refer to Appendix II for the variance form) will be initiated along with the water budget rate implementation on July 1st, 2010.

2 Introduction

2.1 Background

The El Toro Water District ("District"), located within the southern portion of the Orange County, was formed in 1960 under provisions of California Water District Law, Division 13 of the Water Code of the State of California, commencing with Section 34000, for the purpose of providing water supply for the service area. The District is governed by a publicly elected Board of Directors. The District is built out and encompasses all of the City of Laguna Woods and portions of four other cities: Lake Forest, Aliso Viejo, Laguna Hills and Mission Viejo.

The District provides water service to a population of approximately 51,000 in a service area of approximately 8.5 square miles. The District's water system is relatively modern, built in phases since 1960 with 6 reservoirs of combined capacity of 136 million gallons, over 170 miles of water lines and 8 booster stations with 13 pressure zones to deliver water to approximately 10,000 metered water accounts.

2.2 Objectives of the Study

Southern California water agencies are facing water resource challenges including statewide drought, the Delta regulatory restriction and the uncertainty associated with the future water supply from the Delta. The ongoing water supply constraints have driven up the costs of Metropolitan Water District of Southern California ("MWD") water significantly and have caused MWD to implement a drought allocation plan, where penalty rates are accessed for usage above a member agency's allocation. The critical water supply situation also triggered the State Legislature to issue the 2009 Water Conservation Act (Senate Bill 7 or SB-7), which calls for a 20 percent per capita reduction in water usage by 2020. As a result, water agencies are being forced to take more proactive steps to promote conservation and increase water rates at the same time. Thus, to deal with these challenges, the District is committed to implement the water budget tiered rate structure by July 1st, 2010 to promote water efficiency and ultimately achieve the conservation goals set by SB-7.

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- Development of an implementation strategy for the proposed water budget tiered rate structure.

The objectives of the water budget tiered rate structure design and study are to:

- Design fair and equitable individualized water budget allocations;
- Promote efficient water use and ultimately achieve conservation; and
- Enhance revenue stability and financial sufficiency for the District operations.

3 Revenue Adjustments

3.1 Review of Current Water Rate Structure and Water System

The District imports all of its water supply from the Municipal Water District of Orange County ("MWDOC"), which is a member agency of MWD. Due to its dependence on imported water as its sole water source, the District currently has a pass-through system to recover the imported water cost increases of MWD. The current water rate structure of the District consists of four components:

- Monthly service charge varying by meter size;
- Capital replacement and refurbishment ("R&R") monthly charge varying by meter size;
- Volumetric delivery rate of $0.17 per ccf [6]; and
- MWDOC imported water rate for purchased water costs.

Table 3-1 summarizes the current water rates.

Table 3-1: Current Water Rate Structure

Effective Date **7/1/2009**

Meter Size	Monthly Service Charge	Monthly Capital R&R Fees	Commodity Rates ($ / ccf)	
5/8	$ 7.60	$ 2.21	Water Delivery	$ 0.17
3/4	$ 10.14	$ 2.21	Purchased Water	$ 1.72
1	$ 15.20	$ 3.70	Number of Bills / yr	12
1 1/2	$ 27.87	$ 8.99		
2	$ 53.22	$ 22.56	*1 ccf (hundred cubic feet) = 748 gallons*	

Based on the usage data for FY 2009 provided by the District, RFC summarized the breakdown of potable water usage by customer class in the figures below. Approximately 85 percent of the metered accounts are residential. Residential customers, including single family residential ("SFR") and multi-family residential ("MFR"), use approximately 58 percent of the total water of the District. Approximately 8 percent of the metered accounts are dedicated irrigation ("IRR") customers who

[6] 1 ccf (or hundred cubic feet) = 748 gallons

consume about 29 percent of the water in the District. Commercial and Public Authority (or Commercial/ Industrial / Institutions – "CII") customers, representing approximately 8 percent of metered accounts, consume about 12 percent of the District's total water in FY 2009.

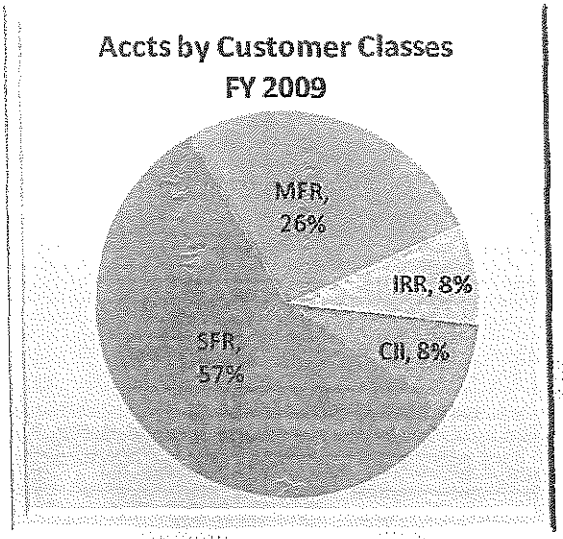


Figure 3-1: Account Summary by Customer Class

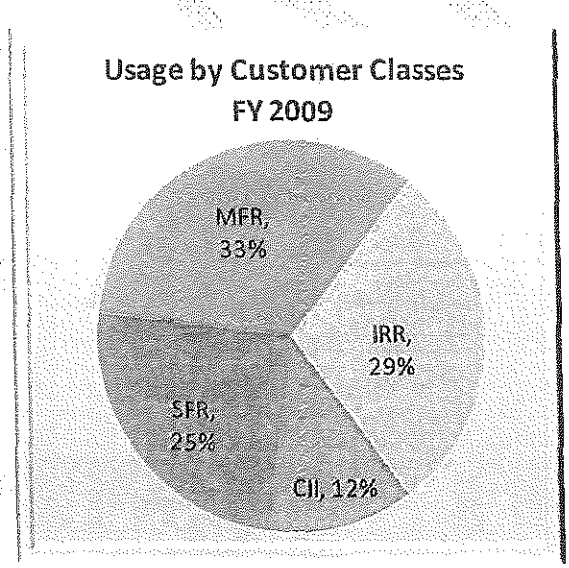


Figure 3-2: Usage Summary by Customer Classes

3.2 Proposed Revenue Adjustments

The District's philosophy is to provide water used for health, safety and sanitary purposes at an affordable rate. Thus, although the District's operating revenue requirements are projected to increase in FY 2010-2011, the District decided to fund the increase using cash reserves in order to keep the monthly service charge and the delivery revenue requirements unchanged.

MWD is anticipated to increase its water rates by 7.5 percent effective January 1, 2011. The increase in MWD and MWDOC rates will be passed on to customers, increasing the water supply rate from $1.72 to $1.86 per ccf in FY 2011.

To responsibly preserve its water and sewer infrastructure investment, meet regulatory requirements and ensure a continuous high level of service to customers, the District maintains a significant Capital Replacement and Refurbishment ("R&R") Program. To minimize financial impacts to customers, the collection of capital facility costs has been phased over time in conjunction with prudent use of reserves to balance capital facility revenues and expenses. The District's proposed 5-year Capital R&R Program requires average annual revenue of $3,000,000. The current charges levied for both water and sewer collect $2,000,000 annually. The proposed rate change will increase the capital charges to generate an additional $500,000 in revenue bringing the total annual revenue from the capital charges to $2,500,000. It is the District's goal to continue to minimize the financial impact to the customer by phasing the collection of increased capital facility revenue with prudent use of reserves.

Effective July 1, 2010, the District proposes to equitably adjust the Capital R&R Charge for water to generate an additional $350,000. This increase coupled with the current Capital R&R Charge revenue will be combined with the use of reserves to fund the 2010/11 Water Capital R&R Program. The Capital R&R Charge for sewer is proposed to collect $1.47 million, an increase of $150,000 from the current sewer capital R&R revenues of $1.32 million.

4 Review of Customer Classes

4.1 Review of Current Customer Classes

Currently, the District has 10 Customer Classes under the five main categories as listed in the table below. In this Study, the water budget rate structure is only applicable to SFR, MFR, and IRR. All the other customer classes retain the current uniform rate structure composed of delivery charges and purchased water rates.

Table 4-1: Current Customer Classes

Category	Bill Class	Current Customer Classes	# of Accts *	Usage (AF)
Single Family Residential ("SFR")	1	Single Family	5,673	2,711
Multi Family Residential ("MFR")	9	Multi Family (apartments)	542	3,664
	6	Leisure World	1,021	
	8	Trailer Parks	30	
	3	Condos	1,020	
Irrigation ("IRR")	10	Dedicated Irrigation Accts	836	3,227
CII	2	Commercial	742	1,343
	4	Public Authority	22	
Other	5	Flood Meters	5	N/A
	7	Private Fire Systems	154	
		Total	9,886	10,945

CII = Commercial / Industrial / Institutional
** Based on FY 2009 data*
AF = Acre feet = 435.6 ccf

4.2 Recommendations of New Customer Classifications

After working closely with the District staff, the following modifications to new customer classifications are recommended to encourage water conservation.

New development/redevelopment SFR, MFR, and IRR customers will be classified as such and will be subject to the "New" subclass which will have different ET Adjustment Factor (see Section 5.1 below) for its outdoor water budget. Table 4-2 summarizes the proposed customer classes.

Table 4-2: Proposed New Customer Classes

Category	Bill Class	New Customer Classes	Subclass
Single Family Residential ("SFR")	1	Single Family	New Existing
Multi Family Residential ("MFR")	3,6,8 &9	Multi Family	Restricted – New Restricted – Existing Unrestricted – New Unrestricted – Existing
Irrigation ("IRR")	10	Irrigation	Functional– New Functional – Existing Recreational

5 Water Budget Allocations

The American Water Works Association defines a water budget as "the quantity of water required for an efficient level of water use by that customer." *(Source: American Water Works Association Journal, May 2008, Volume 100, Number 5)*

5.1 Water Budget Allocations

Water budget allocations are usually broken into two components: indoor water budget and outdoor water budget. Both components are based on default allocation factors decided by the District as policy options. Customer-specific factors are subject to variance programs to enhance the accuracy of the individualized allocations and to achieve equitable allocations.

5.1.1 Indoor Water Budget

The indoor water budget ("IWB") is determined by a customer's household size and a standard consumption per person. The proposed IWB formula is as follows:

$$IWB = \frac{GPCD * Household\,Size * Days\,of\,Service * DF_{indoor}}{748} + V_{indoor}$$

where

- GPCD – Gallons per capita per day. The standard consumption per person per day is set at 60 gallons based on the *AWWARF Residential End Uses of Water Study*, which stated that the mean daily water use per capita is 59.8 gallons.
- Household Size – Number of residents. The default values for household size are set based on customer class
  - Single Family: Household Size = 4 persons[7]
  - Multi Family:
    - Restricted: Household Size = 2 persons [8]
    - Unrestricted: Household Size = 3 persons
- Days of Service. The number of days of service varies with each billing cycle for each customer. The actual number of days of service will be applied to calculate the indoor water budget for each billing cycle.
- DF_{indoor} – Indoor drought factor. The percentage of indoor water budget allotted during drought conditions. The drought factor is subject to the approval of the District's Board of Directors at different drought stages. The indoor drought factor is currently set at 100%.

[7] Based on the CA Population as of 1/1/2009, the average household size for Lake Forest and Mission Viejo is 3.014 persons and 2.941 persons, respectively. To balance the administrative costs associated with variance program and the accuracy of the indoor water budget, single family's water allotment is based on 4 persons per household.

[8] Based on the District's current policy for aged restricted Multi Family customer to qualify for lower sewer rates

- V_{indoor} – Indoor variance. The additional water allotment to be granted for extenuating circumstances is subject to District's approval or verification as outlined in the variance program (see Section 8 – Implementation Strategy below).
- 748 is the conversion unit from gallons to billing unit of hundred cubic feet ("ccf")

For illustrative purposes, the following indoor water budget calculations for two different customers are shown.

- Customer #1: Household Size = 4 persons, Days of Service in January bill = 30 days, No variance
  - $IWB = \frac{60\,gallons/person/day * 4\,persons * 30\,Days * 100\%}{748\,gallons/ccf} = 10\,ccf$ [9]
- Customer #2: Household Size = 6 persons, Days of Service in January bill = 28 days, Medical need variance = 2 ccf per billing cycle
  - $IWB = \frac{60\,gallons/person/day * 6\,persons * 28\,Days * 100\%}{748\,gallons/ccf} + 2\,hcf = 16\,ccf$ [10]

3.1.2 Outdoor Water Budget

The outdoor water budget ("OWB") is determined based on three main variables: irrigable landscape area, weather data and ET Adjustment Factor. The irrigable landscape area, measured as square footage of landscape surface on a customer's property, is estimated using the Orange County Assessors' parcel data - lot size, building size and number of floors - where the actual irrigable landscape area data is not available. The weather data is based on the reference EvapoTranspiration ("ET_0"), which is the amount of water loss to the atmosphere over a given time period at given specific atmospheric conditions. ET_0 is the amount of water (in inches of water) needed for a hypothetical reference crop to maintain its health and appearance. The ET Adjustment Factor ("ETAF") is a coefficient that adjusts ET_0 values based on a plant factor ("PF") and irrigation efficiency ("IE"). The updated California Department of Water Resources' ("DWR") Model Water Efficient Landscape Ordinance ("Landscape Ordinance") provides the following ETAF for different landscapes:

- Existing landscape (Functional[11]): $ETAF_{Existing} = 80\%$
- New development / redevelopment landscape (Functional): $ETAF_{New} = 70\%$
- Special landscape (Recreational[12]): $ETAF_{Recreational} = 100\%$

[9] Rounded up from 9.6 ccf

[10] Rounded up from 15.47 ccf

[11] Functional for landscape which is used for ornamental and decorative purposes. Recreational for landscape which is used mostly for recreational purposes such as school, park, golf courses

[12] Based on CA Code of Regulation, Title 23, Chapter 2.7, Section 491, Special Landscape Area is defined as an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

The formula to calculate outdoor water budget is as follows:

$$OWB = \left(\frac{\text{Landscape Area} * ET_0 * ETAF}{1200} + V_{outdoor} \right) * DF_{outdoor}$$

where

- ET_0 is measured in inches of water during the billing period based on daily data acquired from the California Irrigation Management Information System ("CIMIS") Station 75, which is the closest station to El Toro Water District's service area.
- ETAF (% of ET_0) is defined using the updated Landscape Ordinance as shown above.
- Landscape Area (or Irrigable Landscape Area) (in square feet) is the measured irrigable landscape area served by the customer's meter.
    - Where the measured irrigable landscape area is not available, the landscape area will be estimated by the following formula using the Orange County Assessors' parcel data.
        - $$\text{Landscape Area (sq ft)} = 70\% * \left(\text{Lot Size} - \frac{\text{Building Size}}{\text{Number of Floors}} \right)$$
    - For accounts dedicated for domestic use only, such as multi-family units, 25 square feet of irrigable landscape is provided for each dwelling unit for patio plants.
- $DF_{outdoor}$ – Outdoor drought factor. The percentage of outdoor water budget allotted during drought conditions. The drought factor is subject to the approval of the District's Board of Directors at different drought stages. The outdoor drought factor is currently set at 100%.
- $V_{outdoor}$ – Outdoor variance. The additional water allotment to be granted for extenuating circumstances is subject to District's approval or verification as outlined in the variance program (see Section 8 – Implementation Strategy). Outdoor variance is subject to outdoor drought factor.
- 1200 is the conversion unit from inch*ft² to billing unit of hundred cubic feet ("ccf")

For illustrative purposes, the following outdoor water budget calculations for two different customers are shown.

- Customer #1 – Existing Single Family: Landscape Area = 8,000 sq ft, ET_0 for 30-day January bill = 2.25 inches, No variance
    - $$OWB = \left(\frac{8{,}000\,\text{sq ft} * 2.25\,\text{inches} * 80\%}{1200} \right) * 100\% = 12\ \text{ccf}$$
- Customer #2 – Existing Single Family: Landscape Area = 4,000 sq ft, ET_0 for 28-day January bill = 2.05 inches, Variance = 1 ccf per billing cycle for right of ways

- $OWB = \left(\frac{4{,}000\,\text{sq ft} * 2.05\,\text{inches} * 80\%}{1200} + 1\,\text{hcf} \right) * 100\% = 7\ \text{ccf}$ [13]

5.2 Water Budget Allocations by Customer Classes

The table below summarizes the water budget allocation by customer class. Both Single Family and Multi Family (restricted and unrestricted) customers will receive an indoor and outdoor water budget. Irrigation accounts will only receive an outdoor budget. Commercial and Public Authority ("CII"[14]) customers will continue with the current uniform water rate structure.

Table 5-1: Water Budget Allocations by Customer Classes

Customer Class	Water Budget Allocations	Default Values
Single Family	IWB + OWB	Household Size = 4 persons $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Multi Family – Restricted	IWB + OWB	Household Size = 2 persons $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Multi Family – Unrestricted	IWB + OWB	Household Size = 3 persons $ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Irrigation – Functional	OWB	$ETAF_{New}$ = 70%; $ETAF_{Existing}$ = 80%
Irrigation – Recreational	OWB	$ETAF_{Recreational}$ = 100%

Irrigation – Functional: whose landscape is ornamental in nature
Irrigation – Recreational: whose landscape is used mostly for recreational purposes (school, parks, golf etc…)

5.3 Tier Definitions

Based on the information in Section 5.2 above, the tier definitions are developed as shown in the table below. The main difference between Residential (Single Family and Multi Family) and Irrigation accounts is that Irrigation accounts do not have a Tier 1 allotment which is reserved for essential indoor use. All three customer classes have their Tier 3 allotment defined as 30% of their respective total water budget.

[13] Rounded up from 6.47 ccf

[14] CII = Commercial / Industrial / Institutions

Table 5-2: Tier Definitions by Customer Classes

Tiers	Single Family	Multi-Family	Irrigation
Tier 1 Efficient Indoor Use	100% IWB	100% IWB	0% OWB
Tier 2 Efficient Outdoor Use	100% OWB	100% OWB	100% OWB
Tier 3 Inefficient Use	100% to 130% TWB	100% to 130% TWB	100% to 130% OWB
Tier 4 Unsustainable Use	Above Tier 3	Above Tier 3	Above Tier 3

TWB = Total Water Budget = IWB + OWB

The tier definitions are tailored to the unique consumption patterns of the District's customers and subject to the District's policy decisions. The proposed tier definitions are based on RFC's usage and impact analysis and numerous policy discussions with the Board. The first priority for water use is essential indoor water use for health, safety and sanitary purposes. Based on the Board direction, indoor water use is eligible for revenue offsets from site leases. Maintaining healthy landscape at efficient water use is non-essential, yet important, thus efficient outdoor water use is required to pay the Tier 2 rate. Any usage above an efficient level is subject to higher charges to fund conservation programs and any other supplemental water supply program. The current water supply is reserved for efficient water use within the District for indoor, outdoor and commercial use. The higher Tier 3 rate serves as warning for inefficient use before incurring heavy penalty for excessive use in Tier 4.

5.4 Usage Analysis

The usage analyses are performed for all three customer classes and on aggregate level to ensure that:

- The water budget allocation provides adequate, reasonable amount of water for the District's customers;
- The District can prepare for the potential customers who may apply for variances;
- The District's conservation team is focused on inefficient customers;
- The financial implication of the water sales reduction due to conservation achievement is addressed; and
- The District can make informed policy decisions.

Figure 5-1 shows that 45 percent of the usage falls within Tier 1 for indoor use, 32 percent falls within Tier 2 for outdoor use, and about 23 percent within Tiers 3 and 4. Approximately 27 percent of the bills will be charged at the Tier 1 rate because their consumption is projected to be within their indoor allotment. Approximately 66 percent of the bills fall within their allotted indoor and outdoor water budget, thus only paying Tier 1 and Tier 2 rates. Approximately 34 percent of the bills will exceed the

total water budgets. In order to achieve the conservation goal of 20 percent reduction by 2020 set by the 2009 Water Conservation Act (SB-7), the District will need to focus on Tier 4 and Tier 3 customers to help them achieve efficient water use. Potentially, some of these customers may apply for variances to update their actual household size and/or landscape area inputs.

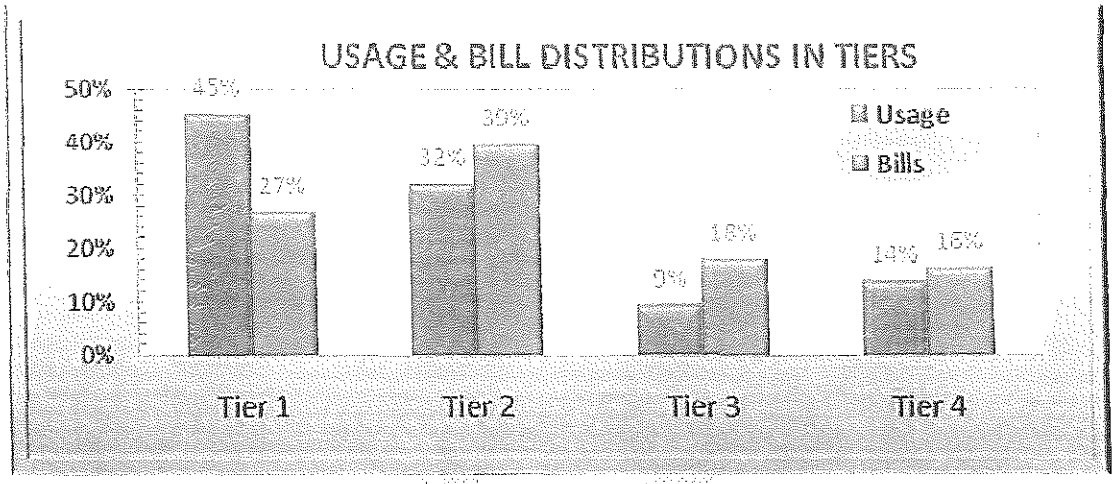


Figure 5-1: Usage and Bill Distributions for SFR + MFR + IRR Customers

5.4.1 Single Family

More than 90 percent of all single family usage and parcel data are incorporated into the analysis. Using the water budget allocations and tier definitions above, the usage and bill distributions for single family customers are shown below. Figure 5-2 shows that 52 percent of total SFR usage is assessed at the Tier 1 rate for indoor use, 35 percent is assessed at Tier 2 for outdoor use, and about 13 percent is charged the higher rates for inefficient use. Approximately 69 percent of the bills have usage within their allotted indoor and outdoor water budget, thus only paying Tier 1 and Tier 2 rates. Approximately 32 percent of the bills will exceed the total water budgets. In order to achieve the conservation goal of 20 percent reduction by 2020 set by the 2009 Water Conservation Act (SB-7), the District will need to focus on Tiers 4 and 3 customers to help them achieve efficient water use.

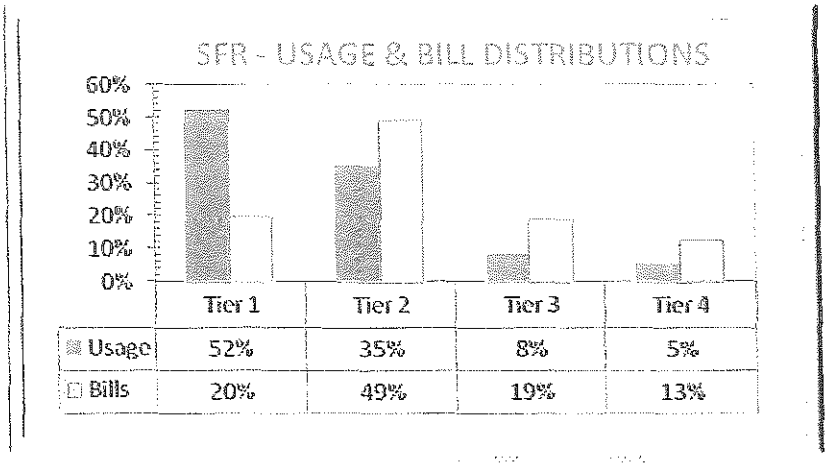


Figure 5-2: SFR Usage & Bill Distributions

Figure 5-3 represents the bill frequency of SFR bills. Approximately 11 percent of the bills have usage exceeding 140 percent of total water budget. These customers will be considered excessive water users and be the prime targets for the District's conservation program. Approximately 20 percent of the bills have usage above 100% of total water budget but less than 140% of total water budget.

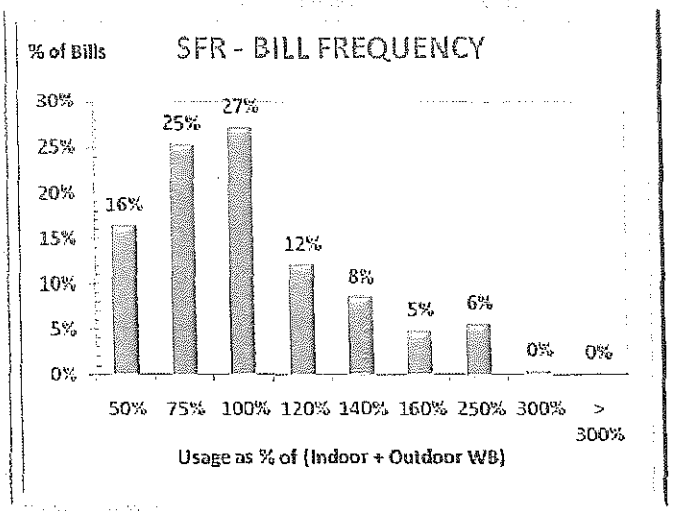


Figure 5-3: SFR Bill Frequency

Figure 5-4 compares the average SFR monthly usage with average monthly water budget for Single Family customers with different lot sizes. For customers with lot size smaller than 4,000 square feet ("sq ft"), the average usage is 12 ccf per month, while the allocated water budget for these customers averages 14 ccf per month. This figure shows that the water budget allocations provide adequate water for customers with different lot sizes on the average. This figure also shows the landscape distribution for single family customers. About 81 percent of the customers have lot sizes smaller than 8,000 sq ft.

In addition, the average usage increases at a smaller rate than the increase in the water budget with increase in lot sizes.

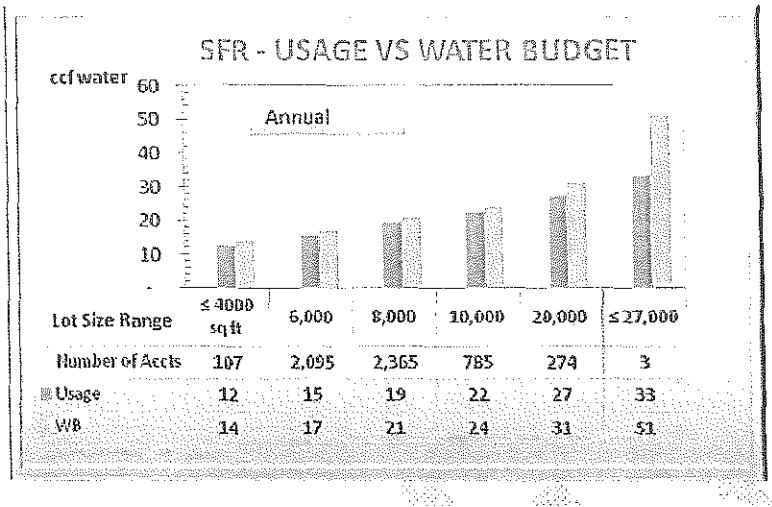


Figure 5-4: SFR – Average Usage and Water Budget Comparisons

5.4.2 Multi Family

Approximately 70 percent of MFR customers are included in the analysis. Most of the MFR accounts have separate meters for irrigation use. All the meters in the current bill class 9 (Multi Family, which are apartments) are for domestic use only. In addition, many condominium parcels do not have irrigable landscape area. As a result, the usage distribution for MFR customers shows that 65 percent of total usage is indoor use as shown in Figure 5-5 below. Approximately 53 percent of MFR bills consume only Tier 1 usage. About 33 percent of the usage is considered inefficient or excessive use, representing 39 percent of the MFR bills.

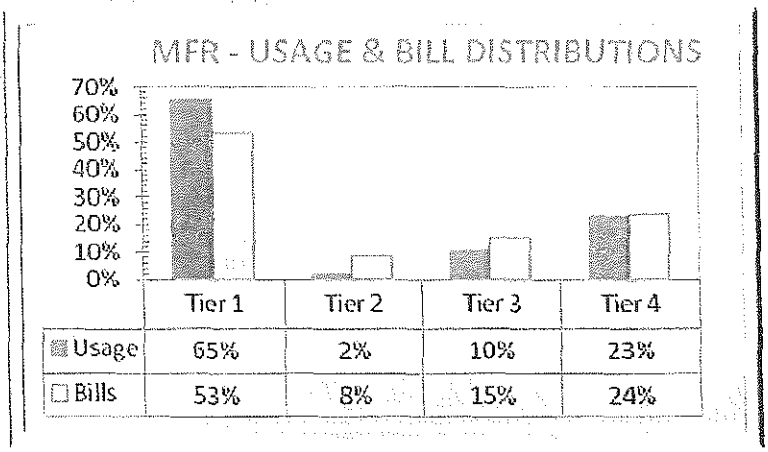


Figure 5-5: MFR – Usage & Bill Distributions

Figure 5-6 represents the bill frequency of MFR bills. Approximately 21 percent of the bills have usage exceeding 140 percent of total water budget. These customers will be considered excessive water users and be the prime targets for the District's conservation program. Approximately 17 percent of the bills have usage above 100% of total water budget but less than 140% of total water budget.

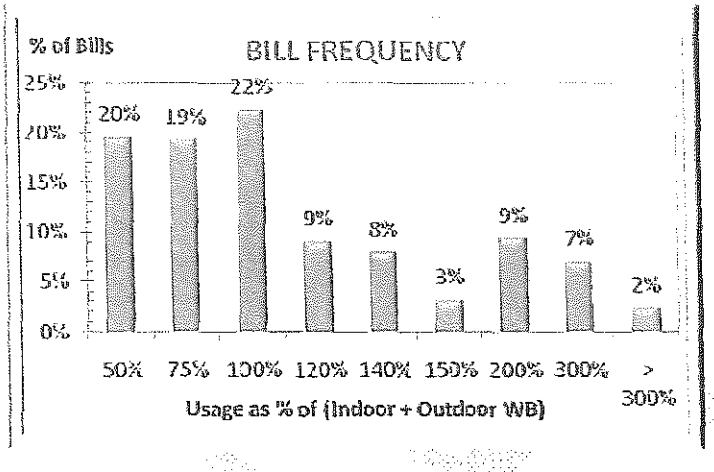


Figure 5-6: MFR – Bill Frequency

5.4.3 Irrigation

Approximately 50 percent of dedicated irrigation customers are included in the analysis. Tier 2 is defined as efficient outdoor water use, thus IRR usage will have no Tier 1 usage as indicated in Figure 5-7 below. Approximately 53 percent of IRR bills consume only Tier 2 usage. About 24 percent of the usage is considered inefficient or excessive use, representing 47 percent of the IRR bills.

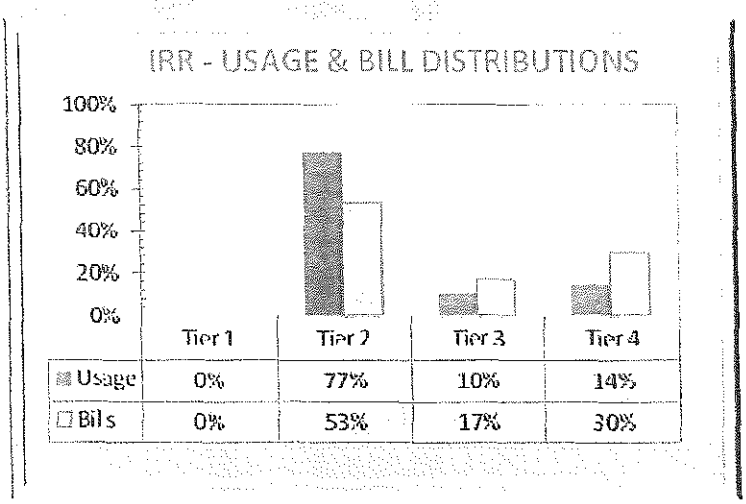


Figure 5-7: IRR – Usage and Bill Distributions

Figure 5-8 presents the bill frequency of IRR bills. Approximately 31 percent of the bills have usage exceeding 130 percent of total water budget[15]. These customers may be considered excessive water users and be the prime targets for the District's conservation program. Approximately 16 percent of the bills have usage above 100% of total water budget but less than 130% of total water budget.

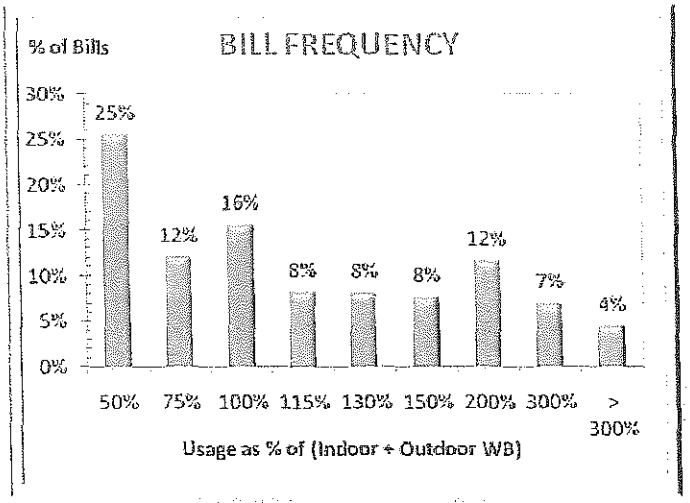


Figure 5-8: Irrigation – Bill Frequency

Figure 5-9 compares the average IRR monthly usage with the average monthly water budget for dedicated irrigation customers with different lot sizes. For customers with lot size smaller than 10,000 sq ft, the average usage is 26 ccf per month, while the allocated water budget for these customers averages to 14 ccf per month (186% of outdoor water budget). However, as the lot size increases, the difference starts to reduce. This figure shows that the larger lots are using water more efficiently than smaller lots. This is consistent with the water savings per device summarized by Save Water – Save A Buck Program established by MWD. Weather-Based Irrigation Controllers ("WBIC") are most efficient for irrigable lots larger than 1 acre. Thus, the District's conservation team can assist the customers with small lot sizes to enhance their water use efficiency.

[15] The usage distributed to each tier is rounded up to the nearest integer. For example, a customer with 31 ccf outdoor water budget consumes 40hcf, the tier distribution will be: Tier 2 – 30 ccf, Tier 3 – 30% of 31hcf or 9.3 ccf rounded up to 10 ccf and Tier 4 – 0 ccf. In reality, the usage is 133% of the water budget. Thus, the bill frequency and the bill distribution will not match exactly.

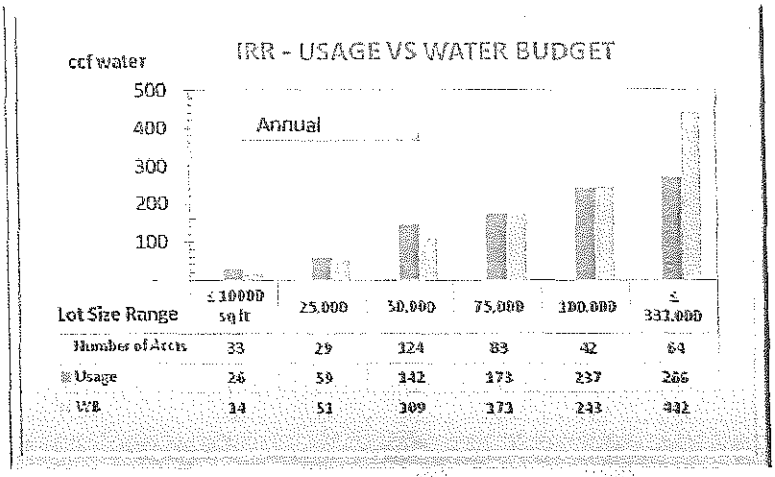


Figure 5-9: Irrigation – Average Usage & Water Budget Comparisons

6 Proposed Rates

6.1 *Commodity Rate Calculations*

Proposition 218 requires a nexus between the rate and costs of providing service. To meet this requirement, RFC has identified four different rate components of the commodity rate, including Water Supply, Delivery, Conservation and Revenue Offset. The below section describes the methodology of developing each rate component.

6.1.1 Water Allocation and Sales in FY 2011

It is important to understand the difference between water allocation and water sales when developing a water budget rate structure. Water allocation, is the summation of all the block widths allotted to each individual customer. This allocation needs to meet the amount of water supply available to the District. In FY 2011, the District projects to purchase 9,400 AF from MWDOC at a blended rate of $783 per acre-foot ("AF"). The District expects approximately 300 AF of water lost during transmission and distribution, which produces an effective rate of $809 per AF and sales of 9,100 AF. Using allocation factors described in Section 5.1 above, RFC has projected water allocation in Tiers 1 and 2, plus estimated water sales for CII to be approximately 9,000 AF. In addition, based on previous experience, RFC estimates that the variance program will increase the overall Tier 1 and Tier 2 water allocations by approximately 5 percent. Thus, the water budgets allocated to Tier 1 and Tier 2 and CII after adjusted for variance program will consume the available MWDOC supply of 9,100 AF.

Table 6-1: Potential (Maximum) Water Allocation

	Single Family	Multi Family	Irrigation	Total (ccf)	Total (AF)
Tier 1	642,115	1,079,458	0	1,721,573	3,952
Tier 2	429,700	28,233	1,255,960	1,713,892	3,935
Water Budget Subtotal	*1,071,815*	*1,107,691*	*1,255,960*	*3,435,466*	*7,887*
CII				486,515	1,117
Variance Program				43,560	100
Total				**3,965,541**	**9,104**

It is expected that the water sales and the water allocation be different, since not all customers will utilize their water allocation, i.e. they will only use a partial amount of their Tier 1 and/or Tier 2 allocation. Table 6-2 shows the expected water sales to occur in each of the respective tiers.

Table 6-2: Projected Water Sales in Tiers

	Projected Usage (ccf)					
Tiers	Single Family	Multi Family	Irrigation	Total	% Reliable*	Reliable
Tier 1	511,843	867,093	0	1,378,936	N/A	
Tier 2	342,523	22,678	898,020	1,263,221	100%	1,263,221
Tier 3	78,121	134,950	112,419	325,490	100%	325,490
Tier 4	49,253	302,330	158,256	509,839	0%	
Total	**981,740**	**1,327,051**	**1,168,695**	**3,477,486**		**1,588,711**

** To be accounted in delivery revenue calculations*

6.1.2 Cost of Water Supply

The current water supply of the District from MWDOC is expected to be consumed by the efficient water use in Tier 1 and Tier 2 and CII use. Any excessive usage above the efficient levels will potentially drive the District to seek additional water supply sources to accommodate Tier 3 and Tier 4 demands. One additional supply source is the Recycled Water Program, which is identified in the Recycled Master Plan Study. The water demand in Tier 3 potentially will be offset by the most efficient conversion[16] of the current potable water users to recycled water, thus the Tier 3 demand will be

[16] It is more cost efficient to convert the potable water users who are closer the Water Recycling Plant.

responsible for the efficient Recycled Water Program cost of $1,653[17] per AF. If all customers in the District consume Tier 4 water, the District ultimately will have to employ the full Recycled Water Program Cost or to seek other more expensive water supply sources. Tier 4 demand will incur at the full Recycled Water Program Cost of $2,479[18] per AF.

Table 6-3: Cost of Water Supply

Water Costs (Include Water loss of 5%)			
Tiers	Descriptions	Cost ($/AF)	Water Cost ($/ccf)
Tier 1	MWDOC Blended	$ 809	$ 1.86
Tier 2	MWDOC Blended	$ 809	$ 1.86
Tier 3	Efficient Recycled Water Program Cost	$ 1,653	$ 3.80
Tier 4	Full Recycled Water Program Cost	$ 2,479	$ 5.70
Uniform (for CII)	MWDOC Blended	$ 809	$ 1.86

6.1.3 Delivery Charge

The delivery charge in FY 2010 is a uniform rate of $0.17 per ccf to recover the remaining operations and maintenance ("O&M") expenses, which is mainly fixed costs, for the District to deliver the water from MWDOC to its customers. The revenue requirements for the delivery charge remain unchanged from last year. Thus, CII customers, who retain the current rate structure, will continue to be charged $0.17 per ccf for delivery.

The District's philosophy is to provide water used for health, safety and sanitary purposes at an affordable rate. Thus, although the District's operating revenue requirements are projected to increase in FY 2010-2011, the District decided to fund the increase using cash reserves in order to keep the service charge and delivery revenue requirements unchanged.
In addition, water sales in Tier 4 are anticipated to decline over time as customers improve their water use efficiency. Thus, the total delivery revenue requirement ($525,749) is assessed in Tiers 2 and 3 usages only (1,588,711 ccf) at $0.34 per ccf.

6.1.4 Conservation Program

The conservation charge will be collected to fund the conservation program to help inefficient users achieve higher water use efficiency. The District intends to fund $200,000 for the conservation

[17] Cost is escalated from the cost estimated in the Recycled Water Master Plan in 1994 to 2010 dollars using annual 4 percent inflation (based on construction cost index).

[18] Cost is escalated from the cost estimated in the Recycled Water Master Plan in 1994 to 2010 dollars using annual 4 percent inflation (based on construction cost index).

program. Water demand of 325,490 ccf in Tier 3 and 509,839 ccf in Tier 4 that exceeds efficient use will be subject to the conservation charge of $0.24 per ccf.

6.1.5 Revenue Offset

To ensure water is affordable for sanitary or essential usage, the District decided to use a portion (75 percent) of its Other Income from Site Leases to offset the revenue requirements for Tier 1. In FY 2011, the Site Lease is projected to generate income of $152,770. 75 percent of that ($114,578) is used to offset 1,721,573 ccf projected to be used in Tier 1. The revenue offset of $0.06 per ccf is applied against the Tier 1 Water Supply Cost.

6.1.6 Commodity Rates

The tiered commodity rates are summarized below for SFR, MFR and IRR customers. The tiered rate will send out a strong conservation signal to inefficient customers and meet the legal requirements of Proposition 218. CII rates will increase to $2.03 per ccf to reflect the higher water supply cost while retaining the current delivery charges.

Table 6-4: Commodity Rates ($/ccf)

Tiers	Current Rates	Proposed Rates				
		Water Supply	Delivery	Conservation	Offset *	Total
Tier 1	$1.89	$1.86			($0.06)	$1.80
Tier 2	$1.89	$1.86	$0.34			$2.20
Tier 3	$1.89	$3.80	$0.34	$0.24		$4.38
Tier 4	$1.89	$5.70		$0.24		$5.94
Uniform Rate	$1.89	$1.86	$0.17			$2.03

** Offset using Income from Site Lease based on District's policy*

6.2 Monthly Water / Sewer Service Charges

The District's financial plan indicates that in FY 2011, there is no overall revenue adjustment for the District's operations including monthly water and sewer service charges and water delivery charges.

6.3 Capital R&R Charges

The Water Capital R&R Charge is a flat charge based on meter size as shown in the table below. The flat charges for each meter size are calculated based on the hydraulic capacity of each meter and an analysis of actual consumption for each meter size. The residential sewer Capital R&R Charge is based on dwelling units in a manner similar to the current assessment of the Sewer O&M Charge. Non-

residential classes including the Commercial and Public Authority classes are billed monthly for the Sewer O&M Charge based on wastewater flow. Refer to *"FY 2010/11 Budget Capital R&R Charge Engineering Report"* prepared by the District's Engineering Department for rate setting methodology attached in the Appendix III. RFC reviewed the Report and found the rate setting methodology consistent with industry practice.

Table 6-5: Monthly Capital R&R Charges, effective July 1st, 2010

Meter Size	Capital R&R Charges	
	Current	Proposed
5/8-inch	$2.21	$3.31
3/4-inch	$2.21	$3.31
1-inch	$3.70	$5.54
1 1/2-inch	$8.99	$13.46
2-inch	$22.56	$33.70

Table 6-6: Monthly Sewer Capital R&R Charges

Residential Class	Monthly Sewer Capital Replacement & Refurbishment Charge ($/EDU)
Single Family Residential Condominiums Trailer Park Unrestricted Laguna Woods Village Trailer Park Restricted Multi-Family Restricted	$4.55 $3.61
Multi Family Unrestricted	$4.29

Meter Size	Commercial	Public Authority
5/8"	$6.42	-
3/4"	$7.34	-
1"	$12.38	$4.55
1 ½"	$25.60	$20.48
2"	$68.77	$35.20

7 Customer Impacts & Rate Survey

7.1 Customer Impacts

Before implementing any rate structure recommendations, it is important to understand how the proposed rate structure would impact water customers. In the figures below, customer impacts are presented for each customer class, SFR, MFR and IRR. The customer impacts are driven by the three main changes:

- The change from the uniform rate to water budget tiered rate;
- The increase in water supply cost from MWDOC; and
- The increase in capital R&R.

The rate ramification chart is a powerful tool to assist the Board to make informed decisions. The chart summarizes the percentage of customers who will be impacted upon the implementation of the new rates. The usage ramification chart is a tool that shows the actual impacts in customer bills based on their usage behavior.

7.1.1 All Water Budget Customers

Figure 7-1 below shows that the proposed rates will cause 45 percent of all the customer bills to increase $2 or less and 19 percent of the bills to increase by $2 to $5. More than 70 percent of the bills will experience an increase of $10 or less in the monthly bills. Approximately 10 percent of all the water budget bills will have more than a $50 increase.

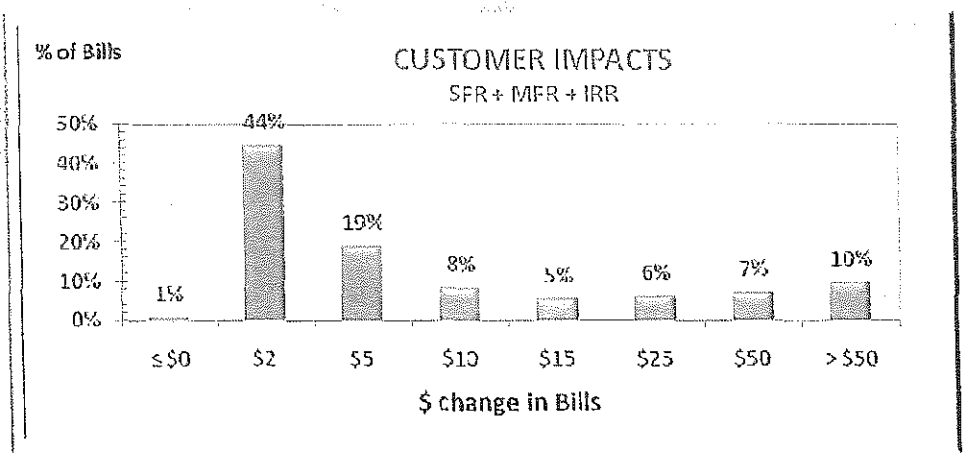


Figure 7-1: Rate Ramifications for All Water Budget Customers

Because the new water rates have increases in multiple components beside the transition of uniform rate to water budget rates, the actual impacts of the water budget tiered rate is masked by the water cost and capital R&R increases. To observe the benefits of the water budget tiered rate structure, the effects of those two increases should be removed on the rate ramification chart. Figure 7-2 below

compares the proposed water budget tiered rate bills with the uniform rates which will take effect in FY 2011 (same as CII rate) assuming that the capital R&R charge is unchanged. According to the Figure 7-2 below, 62 percent of the bills will see a reduction or no change and approximately 16 percent will experience a $10 or less increase in the monthly bills. Only 8 percent of the bills will experience significant impacts of more than $50.

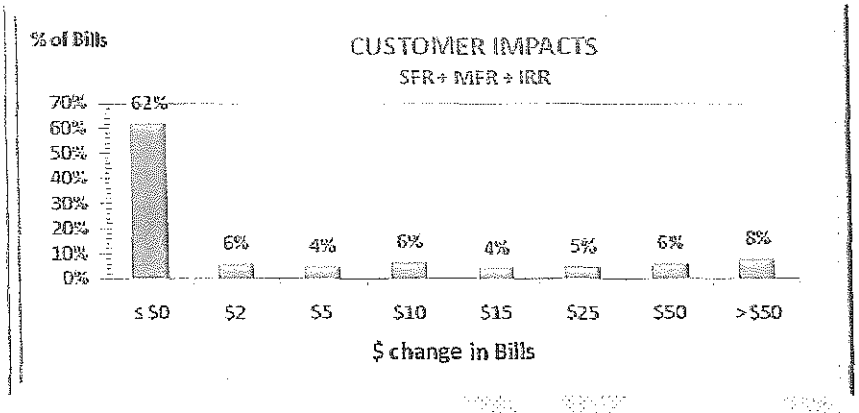


Figure 7-2: Rate Ramifications comparing Water Budget Tiered Rate with Uniform Rates collecting the same revenues

7.1.2 Single Family

As shown in Figure 7-3, approximately 45 percent of SFR bills will see a change of $2 or less in their new bills compared to the current bills assuming their usage behavior unchanged. Another 23 percent of the bills will experience an increase of $2 to $5 in the monthly bills. More than 75 percent of the SFR bills will experience minor monthly bill impacts of $10 or less. Approximately 4 percent of the bills will see more than $50 change in their bills. This is consistent with the usage distribution presented in Section 5 above. The customers, who stay within their water budget, will see much smaller impacts than the excessive users.

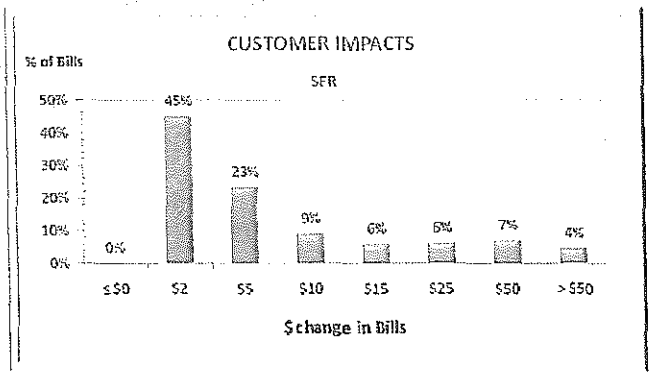


Figure 7-3: Single Family Rate Ramifications

Figure 7-4 shows sample monthly bills of a typical single family customer with ¾ inch meter on average month at different usage levels from 10 to 50 ccf. The allocated water budget is 22 ccf for household of 4 persons and landscape area of 4,000 sq ft. The red line represents the bills under current rates. For usage less than the water budget (less than 22 ccf), the difference between the current bills and proposed bills is barely noticeable. However, as the usage increases, the impacts become greater to discourage inefficient and excessive use.

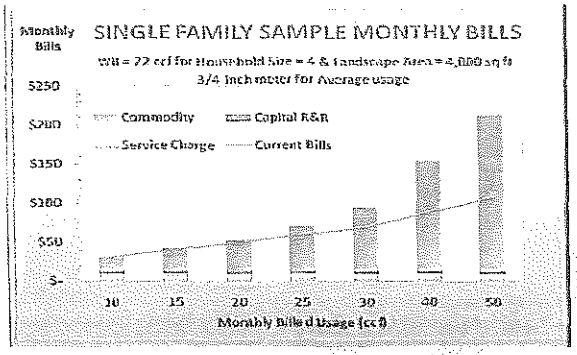


Figure 7-4: Single Family Usage Ramifications

7.1.3 Multi Family

Approximately 3 percent of the MFR will see their bills remain the same or slightly reduced and 51 percent of MFR bills will see a change of $2 or less in their new bills compared to the current bills assuming their usage behavior remains unchanged. Another 9 percent of the bills will experience an increase of $2 to $5 in the monthly bills. More than 70 percent of the MFR bills will experience minor monthly bill impacts of $10 or less. Approximately 12 percent of the bills will see more than $100 change in their bills. The customers, who stay within their water budget, will see much smaller impacts than the excessive users.

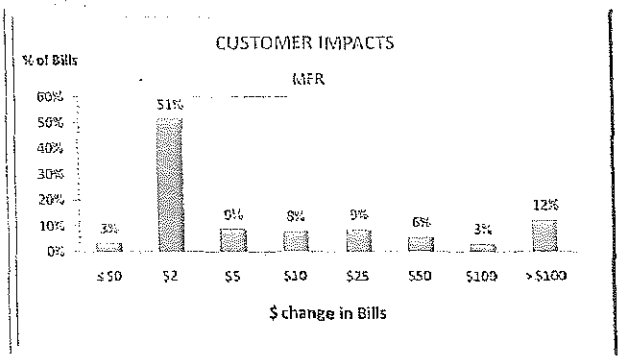


Figure 7-5: Multi Family Rate Ramifications

Sample monthly bills for a typical MFR customer with a 1-inch meter at different usage levels from 75 to 300 ccf are shown in Figure 7-6. The allocated water budget is 161 ccf for 5 dwelling units with

household size of 3 persons per unit and landscape area of 43,560 sq ft (1 acre). The red line represents the bills under current rates. For usage less than the water budget (less than 161 ccf), the difference between the current bills and proposed bills is small. However, as the usage increases, the impacts become greater to discourage inefficient and excessive use. At 300 ccf, approximately 186% of total water budget, the monthly bills will increase from less than $600 to more than $1,100. This will send a strong pricing signal and provide incentives for that customer to improve water use efficiency on the property.

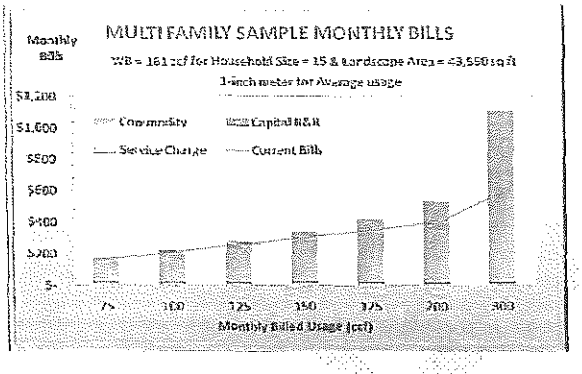


Figure 7-6: Multi Family Usage Ramifications

7.1.4 Irrigation

Approximately 5 percent of IRR bills will see a change of $10 or less in their new bills compared to the current bills assuming their usage behavior remains unchanged. Approximately 26 percent of the bills will see a significant increase of more than $200 in their bills[19]. The customers who stay within their water budget will see much smaller impacts than the excessive users. The proposed rates will send strong signals and incentives to irrigation customers to improve their irrigation efficiency.

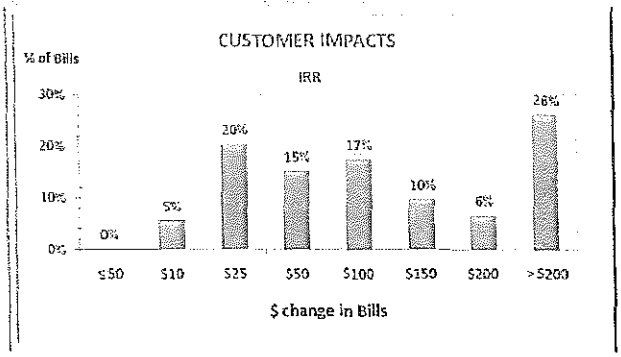


Figure 7-7: Irrigation Customer Impacts

Similar to residential customers, if the consumption is within the allotted water budget, the bill impacts are small, as shown in Figure 7-8 below. The gaps between the current bills and proposed bills

[19] Irrigation bills are generally greater than $400 due to high consumption rate and larger meter size.

increase with increasing water consumption above the efficient level of 142 ccf for a lot size of 50,000 sq ft.

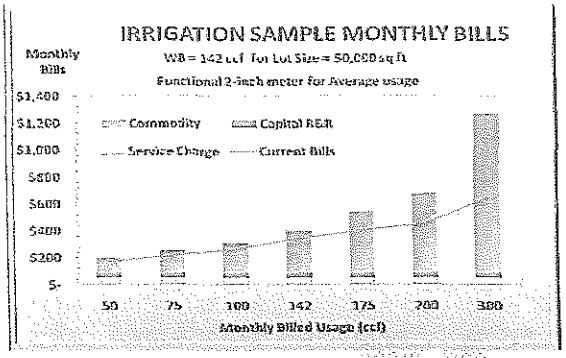


Figure 7-8: Irrigation Usage Ramifications

7.2 *Rate Survey*

Comparing water rates with other neighboring communities can provide insights into a utility's water services pricing policies. However, care should be taken in drawing conclusions from such a comparison, as higher rates may not necessarily mean the utilities are operated and managed poorly. Many factors affect the level of costs and pricing structure employed to recover those costs. Some of the most prevalent factors include source of water supply, demand, age of system, level of grant funding, level of property tax revenues and rate setting methodology. Presented below is the residential water budget rate comparison of the District's proposed commodity rates with Irvine Ranch Water District for its Los Alisos service area and San Juan Capistrano Water District. For reference, Appendix I summarizes different water budget rate structures utilized by other agencies in Southern California.

Table 7-1: Residential Water Budget Rate Survey

Commodity Rates ($ / ccf)							
Tiers	ETWD Residential		Irvine Ranch Water District Los Alisos Residential		San Juan Capistrano Residential < 7,000 sq ft lot	
	Proposed	7/1/2010	Effective	7/28/2009	Effective	2/1/2010
Tier 1	Indoor WB	$ 1.80	0-40% WB	$ 1.40	6 ccf	$ 2.47
Tier 2	Outdoor WB	$ 2.20	41-100% WB	$ 1.78	3 ccf + Outdoor	$ 3.29
Tier 3	30%(IWB+OWB)	$ 4.38	101-150% WB	$ 2.75	up to 200% WB	$ 4.94
Tier 4	above Tier 3	$ 5.94	150-200% WB	$ 4.65	over 200% WB	$ 9.05
Tier 5			201% WB +	$ 9.30	* Net irrigable Area = 3,636 sq ft	

8 Proposed Implementation Strategy

8.1 Implementation Schedule

8.1.1 Phase-In Tier 3 and Tier 4 Rates

One of the District's pricing objectives is to minimize customer impacts. RFC proposes that the Tier 3 and Tier 4 rates are implemented in three phases, to smooth out the transition for customers from uniform rate to water budget tiered rates. Effective July 1st, 2010, Tier 3 and Tier 4 rates are set at Tier 2 rate at $2.20 per ccf. On November 1st, 2010, the Tier 3 will be increased to $3.29 per ccf and Tier 4 will be $4.07. Starting January 1st, 2011, the full rates for all tiers will be effective as shown in Table 8-1 below.

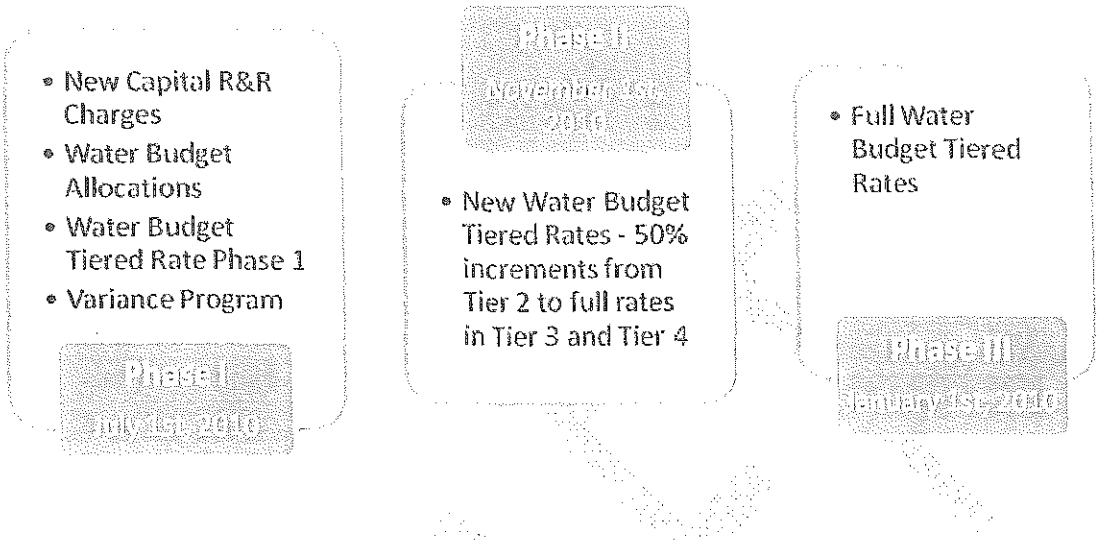
Table 8-1: Commodity Rates Implementation Schedule

Tiers	Phase-In Proposed Rates		
	Effective July 1st	Effective Nov 1st	Effective Jan 1st
Tier 1	$1.80	$1.80	$1.80
Tier 2	$2.20	$2.20	$2.20
Tier 3	$2.20	$3.29	$4.38
Tier 4	$2.20	$4.07	$5.94
Uniform Rate for CII	$2.03	$2.03	$2.03

CII: Commercial / Industrial / Institutional (Public Authority)

The phase-in Tier 3 and Tier 4 rates smooth out the transition from uniform to water budget tiered rates as the impacts are less severe in the beginning. The phase-in will enable the customers to adapt and modify their consumption behavior to the new rate structure without being heavily penalized, and to apply for the variance program. The phase-in strategy will also smooth out the customer service burden to process variance requests and/or answering customers' phone calls, as not all customers will see the significant rate impacts in the first few months of the implementation.

8.1.2 Implementation Timeline



8.2 *Variance Program*

The variance program will allow customers to request changes to their water budget based on household size, landscape area, or other extenuating circumstances. This process will provide truly individualized water budgets. The variance process (refer to Appendix II for the variance form) will be initiated along with the water budget rate implementation on July 1st, 2010.

8.2.1 Adjustments

Adjustments are corrections to the default values to match the actual customer characteristics. Adjustments can be made to only two variables: household size and landscape area. Customers may apply for adjustments by submitting the variance form to the District (described in Appendix II). The following table summarizes the acceptable adjustments and associated requirements.

The sum of all indoor variances approved by the District for a given customer will be applied to the indoor water budget formula as indoor variance (V_{indoor}) (see Section 5.1.1 above). The sum of all outdoor variances approved by the District for a given customer will be applied to the outdoor water budget formula as outdoor variance ($V_{outdoor}$) (see Section 5.1.2 above).

Table 8-2: Summary of Acceptable Adjustments and Associated Requirements

Adjustments	Range	Requirements	Notes
Household Size	4 – 6 persons	Signed Affidavit	
	> 6 persons	Documents	DMV documents, birth certificates, etc …
Landscape Area	Up to 10% adjustment	Signed Affidavit	
	> 10% adjustment	Documentation and potential site visit	Blueprints, Orange County Assessors' records

8.2.2 Variances

Variances are additions to the standard water budget allocations to address certain acceptable extenuating circumstances that cause increases in the customer's water needs. Variances can be requested by submitting the variance form to the District (see Appendix II), and variances are subject to the District's approval upon receipt of the required documentation. The following table summarizes the acceptable variances and associated requirements.

Note that indoor variances will not be subject to the indoor drought factor (DF_{indoor}) while outdoor variances will be subject to the outdoor drought factor ($DF_{outdoor}$).

Table 8-3: Summary of Acceptable Variances & Associated Requirements

Variances	Indoor / Outdoor	Requirements	Notes
Medical Needs or Elderly / Child Care	Indoor	Documentations (Doctor notes, Licenses)	Temporary – need expiration date
Pool Filling	Outdoor	Affidavit	Once every 2 years
Re-establishing landscape	Outdoor	Affidavit, documentations	Once every 2 years
Large Animal (≥100 lbs)	Outdoor	Vet notes	Permanent
Right of Ways	Outdoor	Documentation	Permanent

Return to Agenda

9 Appendices

9.1 *Appendix I – Water Budget Structure Survey*

Descriptions	Irvine Ranch Water District	City of San Juan Capistrano	Eastern Municipal Water District	Rancho California Water District	Western Municipal Water District	Elsinore Valley MWD
Customer Classes	SFR, MFR, CII, Ag	SFR, MFR, IRR, Ag	SFR, MFR, IRR	SFR, MFR, IRR	SFR, IRR, MFR, CII	SFR
Indoor	SFR, MFR	Residential = 9 ccf, Residential $_{\text{High Density}}$ = 12 ccf Master Meter = 6 ccf	SFR, MFR	SFR, MFR	SFR, MFR	SFR
Household Size	Residential Detach = 4 Residential Attach = 3 Apartments = 2		SFR = 3 MFR = 2	SFR = 4 MFR = 3	SFR = 4 MFR = 3	4
GPCD	55		60	60	60	60
Outdoor	SFR, MFR, CII, IRR, Ag	SFR, MFR, IRR	SFR, MFR, IRR	SFR, MFR, IRR	SFR, MFR, IRR	SFR
ETAF (% of ETO)	1.40*Kc Kc = crop coefficient	100%	70%	85% IRR - Tier 1 - 70% of ET_o Tier 2 -additional 15% ET_o	Residential - 100% Irrigation - 80%	60%
Landscape Data	Resi $_{\text{Detach}}$ = 1300sq ft Resi $_{\text{Attach}}$ = 435 sq ft Irrigation = site specific	a) Lot size < 7000 sq ft => Irrig Area = 3636 sq ft b) If > 7000 sq ft , parcel area - footprint for building & hardscape	parcel area - footprint for building & hardscape Landscape Area Caps by Meter Size	parcel area - footprint of the building Landscape Area Caps applied by Lot Size	~ 30% of parcel areas	60% of parcel areas
ET_o	real data	real data	real monthly data	real monthly data	real monthly data	Historical ET
Rate Structure	Tier 1 - Low Volume - 0-40% WB Tier 2 - Base - 41-100% WB Tier 3 - Inefficient (100-150% WB) Tier 4 - Excessive (150-200% WB) Tier 5 - Unsustainable (above 200% WB)	Tier 1 - 100% WB Tier 2 - 100-200% WB Tier 3 - Above 200% WB	Tier 1 - Indoor Tier 2 - Outdoor Tier 3 - Inefficient (100-150%WB) Tier 4 - Excessive	Tier 1 - Essential (Indoor) Tier 2 - Efficient (Outdoor) Tier 3 - Inefficient (100-150%WB) Tier 4 - Wasteful	Tier 1 - Indoor Tier 2 - Outdoor Tier 3 - Inefficient (100-150% WB) Tier 4 - Excessive (150-200% WB) Tier 5 - Unsustainable	Tier 1 - Indoor Tier 2 - Outdoor Tier 3 - Inefficient (width = 1 Outdoor WB) Tier 4 - Excessive (width = 2 outdoor WB) Tier 5 - Wasteful

EL TORO WATER DISTRICT
A District of Distinction
Serving the public - Respecting the environment

9.2 *Appendix U – Variance Program Form*

This sample form is to request adjustments to default values assigned for your parcel and to request variances to increase your water budget allocation due to extenuating circumstances. If you believe you need an increased allocation based on the criteria listed below, you must complete and return this form. The water budget rate structure is designed to serve as a tool to help you identify problems such as leaks or over-watering. Variances may be approved for any of the following reasons and are subject to periodic review by El Toro Water District. One completed form per meter. If you have multiple meters in one account, please refer to your bill for the meter number for the meter requesting adjustments and/or variances.

Customer Information

Account number: Meter Number:

Service Address:

Name of owner(s):

Email address: _____

Phone number: _____

Adjustments

☐ **Household Size** (Indoor) (documentations such as copies of DMV records, birth records, school records, etc. are required for households with more than 6 residents)

Total number of persons residing at the service address: _____

☐ **Landscape Area** (Outdoor) (documentations such as copies of blueprints, Orange County Assessors' records, etc. is required for request of more than 10% increase with potential site visit for verifications)

Current Irrigable Landscape Area: _____ sq ft

Adjusted Irrigable Landscape Area : _____ sq ft

Purpose of Landscape: (circle one) Edible / Ornamental / Recreational

Variances

☐ **Medical Needs** (Indoor) (Doctor's notes are required. The notes should specify the info below.)

Amount of additional water needed per day: _____ **gallons**

☐ **Elderly Care / Child Care** (Indoor) (Copies of License are required)

Total number of persons : _____

☐ **Large Animals** (Outdoor) (for animals ≥ 100 lbs, Vet notes are required. The notes should specify the amount of water needed for each animal.)

Total number of large animals : _____

Amount of water needed per large animal per day : _____ **gallons**

☐ **Pools** (Outdoor) (once every 2 years) – fill in one of the two lines below

Pool volume : _____ **gallons / cubic feet (circle the correct unit)**

Pool dimensions: _____ **ft (length) x** _____ **ft (width) x** _____ **ft (average depth)**

☐ Re-establishing Landscape (Outdoor) (once every 2 years) – fill in one of the two lines below (construction documentations, blue prints may be requested for verification)

New irrigable landscape : _____ sq ft

Date planted: _____ Edible / Ornamental (circle one)

☐ Others

There may be instances where an increased allocation on a permanent or temporary basis may be appropriate. If you believe that is the case, please provide the details in the lines below and attach any documentation you may have. Our Customer Service Department will contact you regarding your request within 30 business days. Please note that additional documentation may be required.

_____

_____

_____

In most cases, if approved, variances will be applied starting with your next bill.

I have completed this form and affirm that I am the above account holder and the information contained herein, including attachments, is complete and accurate. I further understand that all variances are subject to change and I may be liable for back charges for providing false information.

Please mail or fax the completed and signed form along with required documentation (if any) to:

El Toro Water District
24251 Los Alisos Blvd.
Lake Forest, CA 92630
Attn: Customer Service – Variance Form
Fax: 949-837-7092

Signature Date

District Use Only

Received Date Processing Date ☐ Approved ☐ Declined

Other Note(s): Reason(s) for Decline:

9.3 *Appendix III – FY 2010/11 Budget Capital R&R Charge Engineering Report*

FY 2010/11 BUDGET

CAPITAL R & R CHARGE

ENGINEERING REPORT

EL TORO WATER DISTRICT

April 2010

Table of Contents

Introduction

As the District's facilities age, the District continues to make a concerted effort to replace and refurbish its infrastructure to protect its investment, meet regulatory guidelines and ensure an adequate level of service to its users. The Capital Facilities Replacement and Refurbishment Program (CFRRP) is designed to protect the District's investment in its infrastructure. In July, 2005 the District established the following charges intended to fund the District's CFRRP.

- Capital R&R Charge – Water System

  This line item is a flat monthly charge, based on meter size, on each bill to fund the water portion of the capital program. The derivation of the monthly water Capital R&R Charge is described below.

- Capital R&R Charge– Sewer System

  This line item is a flat monthly charge, based on equivalent dwelling units, on each bill to fund the sewer portion of the capital program. The derivation of the monthly sewer Capital R&R Charge is described below.

In an effort to minimize the financial impact to customers the collection of capital costs was phased over time in conjunction with the prudent use of reserves to balance revenues and expenses. The Capital Charges in 2005 generated revenue of $1,325,000. As part of the 2007/08 budget the District increased those charges to generate an additional $675,000 of annual revenue. As part of the 2010/11 budget the District will increase these charges to generate a total of $2,500,000 to fund the CFRRP. This report provides a discussion of the basis for the equitable allocation of these charges to the District's different classes of customers and different meter sizes.

Capital R&R Charges

As described above, the District's on-going water and sewer CFRRP is funded by the water and sewer Capital R&R Charge line items on the bill. The existing capital charges generate approximately $2,000,000 in annual revenue. The proposed rate change will increase the capital charges to generate an additional $500,000 in revenue bringing the total annual revenue from the capital charges to $2,500,000. Staff evaluated the water and sewer components for the proposed 2010/11 five year CFRRP projection and used the proportionate water and sewer capital costs to allocate the $2,500,000 total capital charges to water and sewer as follows:

	Five Year Total	Allocation
Water Capital	$6,188,671	$1,031,000
Sewer Capital	$8,817,837	$1,469,000
Total Capital	**$15,006,508**	**$2,500,000**

- Water Capital R&R Charge

The water Capital R&R Charge allocation is based on meter sizes. The Cost of Service analysis previously used to define the fixed meter fee (Water O&M Charge) assigned equivalent meter factors based on hydraulic capacity and an analysis of actual consumption for each meter size. The previously assigned equivalent meter factors are described in the following table. The total number of equivalent meters is calculated by multiplying the total number of meters for each meter size by the appropriate equivalent meter factor:

Meter Size	Equivalent Meter Factors	Meter Quantity	Total Equivalent Meters
5/8	1	2,389	2,389
3/4	1	4,882	4,882
1	1.67	443	740
1 1/2	4.06	717	2,911
2	10.19	1,472	15,000
Total		**9,903**	**25,922**

The annual capital charge per equivalent meter is calculated by allocating the total cost for the water portion of the CFRRP to each equivalent meter as follows:

$1,031,000 / 25,922 = $39.77 per equivalent meter

The water Capital R&R Charge is determined for each meter size proportionately based on the number of equivalent meters. The annual Capital R&R Charge for any size meter is derived by multiplying the annual charge per equivalent meter by the equivalent meter factor for that meter size. For example, the annual charge for a 1" meter size was calculated per the following formula:

Equivalent Meter Factor for 1" Meter x $39.77 = 1" Meter Annual Capital R&R Charge

1.67 x $39.77 = $66.42

The derivation of the charge for each meter size and the total annual and monthly charges are defined in the following table:

Meter Size	Equivalent Meters Factor	Cost per Equivalent Meter	Annual Capital R&R Charge Per Meter	Monthly Capital R&R Charge Per Meter	Number of Meters	Total Annual Capital R&R Charge
5/8	1	$39.77	$39.77	$3.31	2,389	$94,891
3/4	1	$39.77	$39.77	$3.31	4,882	$193,913
1	1.67	$39.77	$66.42	$5.54	443	$29,397
1 1/2	4.06	$39.77	$161.47	$13.46	717	$115,810
2	10.19	$39.77	$405.26	$33.77	1,472	$596,513
Total					**9,903**	**$1,030,524**

- Sewer Capital R&R Charge

The variety of applications, sewer return factors, and wastewater strengths makes it unreasonable to develop Capital R&R Charges based solely on meter sizes and the equivalent meter method. For purposes of equitable allocation amongst the various sewer users a different concept was required.

The sewer Capital R&R Charge is based on dwelling units in a manner similar to the current assessment of the Sewer O&M Charge for much of the residential community. For this purpose, users are divided into residential and non-residential classes. Dwelling unit data was initially tabulated for each of the residential customer classes.

A Single Family Residence (SFR) is considered a fairly homogenous class in terms of flow and strength of wastewater discharge. An SFR is considered as one equivalent dwelling unit (EDU). There are 5,678 single family residences in the ETWD service area which represent 5,678 EDUs. The wastewater loadings of residential customers other than Single Family Residences are compared to a single family residence and defined in terms of EDUs using SFRs as the baseline. Sewer charges are used to define EDUs by comparing the sewer service charges for other users to those of a single family residence.

Laguna Woods Village, the restricted Trailer Park class and the restricted and the unrestricted Multi Family classes have a lower residential density than the Single Family class. The Sewer O&M Charge is lower for these classes than for the SFR class in deference to the lower density and the accompanying lower rate of sewer discharge. For purposes of calculating the sewer Capital R&R Charge the dwelling units (DUs) for these developments are proportionately reduced based on the ratio of the applicable Sewer O&M Charge flat rate to the current SFR rate of $17.49 per month. The revised EDU counts in Laguna Woods Village, the Multi-Family and the Restricted Trailer Park classes are calculated as follows:

Condominiums	1020 DUs x $17.49 / $17.49 =	1020 EDUs
Laguna Woods Village	12,736 DUs x $13.87 / $17.49 =	10,100 EDUs
Trailer Parks Restricted	584 DUs x $13.87 / $17.49 =	463 EDUs
Trailer Parks Unrestricted	390 DUs x $17.49 / $17.49 =	390 EDUs
Multi-Family Restricted	1,584 DUs x $13.87 / $17.49 =	1,256 EDUs
Multi-Family Unrestricted	2,543 DUs x $16.49 / $17.49 =	2,398 EDUs

Non-residential classes including the Commercial and Public Authority classes are billed monthly for the Sewer O&M Charge based on wastewater flow. In order to fairly allocate the Sewer Capital R&R cost to these classes, an analysis was conducted of the total sewer O&M Charge billing for each meter size by class. The sewer O&M charge billing captures such variables as type of business, wastewater strength and return to sewer factors based on potential irrigation components of combined meters. A ratio of the total sewer O&M charge billing for each meter size relative to the monthly residential sewer O&M Charge flat rate of $17.49 was calculated and used to assign EDUs for each meter size within the Commercial Class. An example of the formula to derive the EDUs for a 5/8" meter size demonstrates the method:

Annual Sewer Billing for 5/8" Meters / 12 / Number of Accounts / Residential Flat Rate = Ratio

$5,027 / 12 / 17 / $17.49 = 1.41

The total number of EDUs for each meter size is then derived by multiplying the calculated ratio for that meter size by the corresponding number of accounts for that meter size. The following table describes the development of EDU data for the Commercial Class:

Meter Size	Annual Sewer Billing	Total Monthly Sewer Billing	Ratio to Residential Flat Rate	Number of Accounts	Equivalent Dwelling Units
5/8	$5,027	$419	1.41	17	24
3/4	$26,984	$2,249	1.61	80	129
1	$65,718	$5,476	2.72	115	313
1 1/2	$211,402	$17,617	5.63	179	1,007
2	$834,213	$69,518	15.11	263	3,975
Total	$1,143,345	$95,279		654	5,448

A similar analysis was conducted for the Public Authority Class. The following table provides the calculated EDUs for this class:

- Public Authority

Meter Size	Annual Sewer Billing	Total Monthly Sewer Billing	Ratio to Residential Flat Rate	Number of Accounts	Equivalent Dwelling Units
1	$205	$17	0.97	1	1
1 1/2	$1,986	$165	4.73	2	9
2	$30,804	$2,567	7.72	19	147
Total	**$32,994**	**$2,750**		**22**	**157**

After developing the EDU data for the non residential classes, total EDU data was tabulated for the entire sewer customer base as shown below.

The monthly Capital R&R Charge per class is calculated proportionately based on the number of dwelling units per class in order to generate the total desired capital charge of $1,750,000. The calculation is demonstrated as follows for the Single Family Residential customer class:

EDUs for Class / Total EDUs x Total Capital Cost = Class Capital R&R Charge
5,678 / 26,910 x $1,469,000 = $309,958

The EDU data and the assessment of the total capital R&R cost per class are reflected in the table below:

	DUs	EDUs	Monthly Capital R&R Charge	Total Annual Capital R&R Charge
Single Family Residential	5,678	5,678	$25,830	$309,958
Commercial	5,448	5,448	$24,784	$297,403
Condominium	1,020	1,020	$4,640	$55,681
Public Authority	157	157	$714	$8,571
Laguna Woods Village	12,736	10,100	$45,946	$551,353
Trailer Parks Restricted	584	463	$2,106	$25,275
Trailer Parks Unrestricted	390	390	$1,774	$21,290
Multi Family Restricted	1,584	1,256	$5,714	$68,564
Multi Family Unrestricted	2,543	2,398	$10,909	$130,905
Total	30,140	26,910	$122,417	$1,469,000

The annual cost per equivalent dwelling unit, irrespective of class, is derived by dividing the total annual charge ($1,469,000) by the total number of EDUs (26,910) resulting in an annual cost of $54.59 per sewer EDU or a monthly cost of $4.55 per EDU.

The Sewer Capital R&R Charge for each residential customer is calculated by dividing the Total Capital R&R Charge for that class by the total number of dwelling units producing the following residential Sewer Capital R&R Charges:

	DUs	EDUs based on Sewer Flat Rates	Total Annual Capital Charge	Monthly Capital Charge per Dwelling Unit
Single Family Residential	5,678	5,678	$309,958	$4.55
Condominium	1,020	1,020	$55,681	$4.55
Laguna Woods Village	12,736	10,100	$551,353	$3.61
Trailer Parks Restricted	584	463	$25,275	$3.61
Trailer Parks Unrestricted	390	390	$21,290	$4.55
Multi-Family Restricted	1,584	1,256	$68,564	$3.61
Multi-Family Unrestricted	2,543	2,398	$130,905	$4.29

The Sewer Capital R&R Charge for non-residential customers is calculated by multiplying the monthly cost per EDU ($4.55) by the number of EDUs for each meter size and then dividing the product by the number of accounts in that meter size. The following is an example of the formula for the 5/8" commercial meter size:

Monthly Cost/EDU x EDUs/Meter Size / Number of Accounts = Sewer Capital R&R Charge
$4.55 x 24 EDUs / 17 Accounts = $6.42/month

The monthly Sewer Capital R&R Charge for each non-residential customer class is summarized in the following table:

	Meter Size	Number of Accounts	Equivalent Dwelling Units	Monthly Capital Charge Per Meter
Commercial	5/8	17	24	$6.42
	3/4	80	129	$7.34
	1	115	313	$12.38
	1 1/2	179	1,007	$25.60
	2	263	3,975	$68.77
Public Authority	1	1	1	$4.55
	1 1/2	2	9	$20.48
	2	19	147	$35.20

SUMMARY

To protect its infrastructure investment and to ensure a continuing high level of service to its users the District maintains a significant Capital Facilities Replacement and Refurbishment Program. The water portion of the District's monthly bill includes a line item for collection of revenue to fund the District's Capital Facilities Replacement and Refurbishment Program. The Water Capital R&R Charge will be based on meter size as follows:

Meter Size	Monthly Water Capital Replacement & Refurbishment Charge
5/8	$3.31
3/4	$3.31
1	$5.54
1 1/2	$13.46
2	$33.77

The sewer portion of the monthly billing includes a similar line item for sewer service. For Residential customers the sewer Capital R&R Charge is:

Residential Class	Monthly Sewer Capital Replacement & Refurbishment Charge ($/EDU)
Single Family Residential	
Condominiums	$4.55
Trailer Park Unrestricted	
Laguna Woods Village	
Trailer Park Restricted	$3.61
Multi-Family Restricted	
Multi Family Unrestricted	$4.29

For Non-Residential customers the sewer Capital R&R Charge is:

Meter Size	Commercial	Public Authority
5/8"	$6.42	-
3/4"	$7.34	-
1"	$12.38	$4.55
1 ½"	$25.60	$20.48
2"	$68.77	$35.20

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PUBLIC HEARING AND PROTEST PRECEEDING

The Governing Board of the El Toro Water District will conduct a **Public Hearing on Thursday, June 24, 2010 at 4:00 p.m.** in the Board Room of its Administrative Office located at 24251 Los Alisos Blvd., Lake Forest, CA 92630. The purpose of the hearing will be to consider adoption of the proposed Water Usage Rate increase, the Water Budget-Based Tiered Conservation Rate Structure and the proposed Capital Replacement & Refurbishment Water and Sewer charge increase. Property owners, tenants and customers may comment and file a written protest on the proposed increases. California law prohibits the District from increasing charges if a majority of the affected property owners, tenants and customers file a written protest opposing the proposed increases before the end of the public hearing. Written protests must be submitted to the District at P.O. Box 4000, Laguna Hills, CA 92654 or personally submitted on or before the end of the public hearing, which is scheduled for 4:00 p.m. on June 24, 2010. Each protest must identify the affected property (by account number or street address) and include the signature of a record property owner or customer. Email protests will not be accepted. Oral protests at the public hearing will not qualify as a protest, unless accompanied by a written protest. The District's Board of Directors welcomes input from the public during the public hearing.

El Toro Water District
PO Box 4000
Laguna Hills, CA 92654

El Toro Water District

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NOTICE OF PUBLIC HEARING ON PROPOSED WATER AND SEWER RATE INCREASE

The District is proposing to increase certain rates, fees and charges as noted on the following pages. The proposed increases are the result of detailed budget analysis and an independent professional Engineering Water Budget Tiered Rate Study prepared to determine appropriateness of the amounts, and fair and equitable allocation of same among customer categories. The primary reason for the increases is the increased cost of purchasing water from the District's wholesale water provider, the Municipal Water District of Orange County ("MWDOC"). The District purchases 100% of its water from MWDOC to meet its domestic water and fire protection demands. The wholesale water increases are driven by investment in water treatment/delivery infrastructure and securing higher cost water supplies due to Northern California Delta importation regulatory restrictions. The amount paid by the District to MWDOC for wholesale water is the exact amount "passed through" to the District's customers in the form of a usage charge. Additionally, the District is increasing its water and sewer Capital Replacement and Refurbishment ("CR&R") Charges to fund on-going existing infrastructure costs. Continued CR&R investment ensures compliance with regulatory requirements and ensures a continuous high level of service to our customers.

Upon request, a copy of the proposed 2010/11 fiscal year budget and the Water Budget Tiered Rate Study may be obtained at the District's Administrative Offices. The proposed increases impact the "Water Usage Rate", which will be transitioning from a uniform rate per ccf billing unit to a Water Budget-Based Tiered Conservation Rate Structure, and the "Water and Sewer Capital Replacement & Refurbishment Charge". The Water Usage Rate will change from a uniform rate to a four-tiered rate structure. The Water Usage Rate increase will become effective with the first full billing period after July 1, 2010 for pricing Tiers I and II. To smooth the transition, rates for Tiers III and IV will be phased in during the November and January billing periods. The CR&R Charge increase will be effective with all water bills issued after July 1, 2010.

The net impact of the proposed changes in the rate structure for residential customers will vary based upon the actual water consumption and the property specific water budget. The calculation of the water budget for residential customers is described in the section below titled Residential Customers.

BACKGROUND

The District provides water and sewer services based on the actual cost of operations and maintenance costs. Each year the District's Board of Directors adopts an annual operating budget that goes into effect on July 1. Part of the budgeting process is to assess the adequacy of the District's fees, rates and charges. Of utmost importance is to minimize costs (and therefore rates), while maintaining the integrity of the District's infrastructure. To assist the District in this endeavor, the District retains independent outside Engineering and Financial consultants.

Although precipitation has improved in the current year, three years of drought along with court-ordered supply restrictions in Northern California have caused a regional supply shortage in Southern California. In response to this regional supply shortage, MWDOC reduced its water deliveries to its water agencies in 2009/10 and will continue that reduction in 2010/11. Additionally, California regulations require reduction in urban water usage by 10 percent by 2015 and 20 percent by 2020. To encourage conservation, the District implemented an interim Water Allocation Program for the 2009/10 fiscal year. If adopted, the current Water Allocation Program and Water Usage Rate structure will transition to a Water Budget-Based Tiered Conservation Rate Structure effective July 1, 2010.

> Water budget is the quantity of water that would be required for an efficient level of water use.

WATER BUDGET-BASED TIERED CONSERVATION RATE STRUCTURE

Water Budget-Based Tiered Conservation Rate Structures ("Tiered Conservation Rate Structure") use property-specific water budgets and tiered pricing to provide customers with an economic incentive to use water efficiently. Such Tiered Conservation Rates Structures are fair and equitable to all customers. They provide incentives to those customers who use water wisely and pass on the incremental costs associated with conservation programs and development of supplemental water sources to those who use water in an excessive manner.

The District is proposing a Tiered Conservation Rate Structure for residential and irrigation customers. The District's proposed rate structure takes into consideration both indoor (for residential customers) and outdoor water use for residential and irrigation customers. The calculation of water budgets for residential and irrigation customers is described in the following sections.

RESIDENTIAL CUSTOMERS

A customer's specific water budget is calculated to meet the efficient demands of indoor domestic use as well as outdoor irrigation. A water budget is the sum of the indoor and outdoor water budgets.

The **indoor water budget** in hundred cubic feet (ccf[1]) is:

60 gallons/person/day * Number of people per household* days/billing cycle *DF_{indoor}/748

- Where DF_{indoor} is the indoor drought factor to be set by the Board depending on the drought stage, currently set to 1 and the number of people per household is as follows:
  - Detached home (single family home): 4 people
  - Attached home - unrestricted (i.e. condominium or townhouse): 3 people
  - Attached home - restricted (i.e. condominium or townhouse with age restrictions): 2 people
  - Apartment: 2 people

The **outdoor water budget allocation** in ccf is:

Weather data * Landscape area * ETAF * $DF_{outdoor}$/1200

- Where the weather data is measured by the reference EvapoTranspiration (ET_0) data in inches of water per billing cycle. ET is the amount of water that is lost by plants through evaporation and transpiration, and needs to be replaced for the plants to remain healthy. ET_0 data is obtained from California Irrigation Management Information System (CIMIS) Station 75 established by State of California Department of Water Resources, Office of Water Use Efficiency;
- The landscape area for Multi-family accounts including apartments, condominiums and mobile homes will be provided 25 square feet of landscape per dwelling unit; any landscape area associated with the account will be included in the total allowance for that account.
- The landscape area for single-family detached homes is calculated by taking the building area and dividing it by the number of floors and subtracting that from the parcel area. The result is then multiplied by 70 percent to obtain the landscape area as follows:

  Landscape area = (lot size - (building area /number of floors)) * 70%
- ET Adjustment Factor (ETAF) is a coefficient that adjusts the EvapoTranspiration (ET_0) values based on type of plants and irrigation efficiency. Based on the updated Model Water Efficient Landscape Ordinance[2] developed by the California Department of Water Resources, any landscape installed prior to January 1, 2010 has an ETAF of 0.8 and new landscape is an ETAF of 0.7. New landscape is defined as new or re-developments.
- $DF_{outdoor}$ is the outdoor drought factor to be set by the Board depending on the drought stage, currently set to 1. This factor is not necessarily the same as the DF for indoor;
- 1200 is the conversion factor from inches/sq ft to ccf.

The indoor water budget, as determined above, will be billed at Tier I ("Indoor - Efficient") rates. The outdoor water budget, as determined above, will be billed at Tier II ("Outdoor - Efficient") rates. Water use in excess of the Tier I and II water budget would be deemed inefficient and/or excessive. Tier III ("Inefficient") water use would be usage between 100% and 130% of the Tier I and II water budget (or Total Water Budget) and Tier IV ("Excessive") usage would be consumption over 130% of Total Water Budget.

Customers may request an adjustment/variance in order to make equitable adjustments to a customer's specific water budget for special circumstances such as, more people living in the home than the formula provides or medical needs.

DEDICATED IRRIGATION CUSTOMERS

Dedicated irrigation customers fall into one of two categories: Recreational or Functional. Recreational irrigation customers are those whose landscape is used mostly for recreational purposes (i.e. parks, soccer fields, etc.) while Functional irrigation customers will be those whose landscape is ornamental in nature (greenbelts, medians, etc.).

The irrigation water budget for dedicated irrigation customers in ccf is calculated as follows:

Weather data * Landscape area * ETAF * $DF_{outdoor}$/1200, where

- Weather data (ET_0) as described in the section above,
- Landscape area is assumed to be the lesser of 100% of total parcel area or 100% of the measured landscape area served by each meter,
- ET adjustment factor (ETAF) is equal to 0.8 for Functional irrigation and 1 for Recreational irrigation customers based on the updated Model Water Efficient Landscape Ordinance, and
- $DF_{outdoor}$ as described in the section above.

All of an irrigation customers' Water Budget will be at Tier II (Outdoor - Efficient). Water use in excess of the Tier II water budget would be deemed inefficient and/or excessive. Tier III (Inefficient) water usage would be between 100% and 130% of the Tier II budget and Tier IV (Excessive) usage would be consumption over 130%.

Customers may request an adjustment/variance in order to make equitable adjustments to a customer's specific water budget for special circumstances such as, establishing new landscaping and changes in irrigation landscape area.

1. ccf (100 cubic feet) = 748 gallons
2. Also in *State of California Code of Regulations, Title 23, Section 490-495*

COMMERCIAL, INSTITUTIONAL AND INDUSTRIAL (CII) CUSTOMERS

CII customers will remain at a uniform billing rate. The uniform billing rate for CII customers will increase from the current rate of $1.89 to $2.03 per ccf.

PROPOSED TIERED WATER USAGE RATES

		(for bills issued in)		
Water Usage Charges	Current Rate (1)	Aug, 2010	Nov, 2010	Jan, 2011
Tier I - Indoor - Efficient	$1.89	$1.80	$1.80	$1.80
Tier II - Outdoor - Efficient	$1.89	$2.20	$2.20	$2.20
Tier III - Inefficient	$1.89	$2.20	$3.29	$4.38
Tier IV - Excessive	$1.89	$2.20	$4.07	$5.94
CII	$1.89	$2.03	$2.03	$2.03

(1) Current rate includes $1.72 Water Usage Charge - MWDOC and $0.17 ETWD Delivery Charge.
(2) Tier III & IV rates are phased in through January 2011.

CAPITAL REPLACEMENT AND REFURBISHMENT (CR&R) PROGRAM

To responsibly preserve its water and sewer infrastructure investment, meet regulatory requirements and ensure a continuous high level of service to our customers, the District maintains a significant CR&R Program. To minimize financial impacts to customers, the collection of capital facility costs has been phased over time in conjunction with prudent use of reserves to balance capital facility revenues and expenses. The District's proposed 5-year CR&R Program requires average annual revenue of $3,000,000. The current charges levied for both water and sewer collect $2,000,000 annually. It is the District's goal to continue to minimize the financial impact to the customer by phasing the collection of increased capital facility revenue with prudent use of reserves.

Effective July 1, 2010, the District proposes to equitably adjust the CR&R Charge for Water and the CR&R Charge for Sewer to generate an additional $500,000. This increase coupled with the current CR&R Charge revenue will be combined with the use of reserves to fund the 2010/11 Water and Sewer CR&R Program. The CR&R Charge for Water is a flat charge based on meter size. The flat charges for each meter size were calculated based on the hydraulic capacity of each meter and an analysis of actual consumption for each meter size. The CR&R Charge for Sewer is a flat charge based on equivalent dwelling units ("EDUs"). The EDU analysis captures variables such as water usage, sewer return factors and wastewater strengths, in order to most equitably allocate capital cost charges.

Monthly Capital Replacement and Refurbishment (CR&R) Charge

WATER

Meter Size	Current Charge	Proposed Charge
5/8" meter	$2.21	$3.31
3/4" meter	$2.21	$3.31
1" meter	$3.70	$5.54
1-1/2" meter	$8.99	$13.46
2" meter	$22.56	$33.77

SEWER

Public Authority

Meter Size	Current Charge	Proposed Charge
1" meter	$3.93	$4.55
1-1/2" meter	$17.69	$20.48
2" meter	$34.34	$35.20

SEWER

Residential

	Current Charge	Proposed Charge
Single Family	$3.93	$4.55
Multi-family		
Restricted	$3.15	$3.61
Unrestricted	$3.74	$4.29

Commercial

Meter Size	Current Charge	Proposed Charge
5/8" meter	$5.58	$6.42
3/4" meter	$5.44	$7.34
1" meter	$12.65	$12.38
1-1/2" meter	$26.65	$25.60
2" meter	$60.78	$68.77

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El Toro Water District

Variance/Adjustment Request Form

The purpose of this form is to request an adjustment to your water budget. If you believe your allocation needs to be increased based on the criteria listed below, please complete and return this form.

The Water Budget-Based Tiered Conservation Rate Structure is designed to provide an adequate amount of water for indoor and outdoor use. Variances/Adjustments may be approved for qualified reasons and are subject to periodic review by El Toro Water District. If you have multiple meters in one account, please refer to your bill for the Service ID for the meter for which you are requesting adjustments and/or variances. Use a separate sheet to summarize your request.

NO RETROACTIVE VARIANCES/ADJUSTMENTS WILL BE GRANTED. Adjustments will be effective at the start of the billing period, after the adjustment is approved.

Customer Information

Account Number: Service ID:

Service Address:

Name on Account:

Email Address: _____

Best day, time and phone number to reach you: _____

Adjustments

☐ **Household Size** (Indoor) (Documentation such as copies of DMV records, birth records, school records, lease/rental agreements, etc. is required for households requesting an increase in occupancy of more than two permanent residents.)

Total number of people permanently residing at the service address: _____

☐ **Landscape Area** (Outdoor) (Documentation such as copies of blueprints, Orange County Assessors' records, etc. and/or a verification site visit may be required).

Current Irrigable Landscape Area (from water bill): _____ sq ft

Requested Adjusted (New) Irrigable Landscape Area: _____ sq ft

Variances

☐ **Medical Needs** (Indoor) (A doctor's note is required. The note should specify the information below.)

Amount of additional water needed per day: _____ gallons

☐ **Elderly Care / Child Care** (Indoor) (A copy of your license is required.)

Total number of people: _____

☐ **Large Animals** (Outdoor) (For animals ≥ 100 lbs, a verification letter from your veterinarian is required. The letter must specify the amount of water needed per day for each animal.)

Total number of large animals : _____

Amount of water needed per large animal per day: _____ gallons

Variances (continued)